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## Bulletin: Western Michigan University Undergraduate Catalog 1959-1960

Western Michigan University

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# Bulletin

UNDERGRADUATE

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**Catalog &  
Announcements**

**1959**  
  
**1960**

**WESTERN MICHIGAN UNIVERSITY**

**Kalamazoo, Michigan**



WESTERN MICHIGAN UNIVERSITY is located in Kalamazoo, midway between Chicago and Detroit. It is served by the New York Central and Pennsylvania Railroads, by Lake Central and North Central Airlines. Three major highways and numerous bus routes connect the city with other mid-western cities. The population of greater Kalamazoo is nearly 100,000.

## DIRECTIONS FOR CORRESPONDENCE

Director of Admissions

Admissions, University literature, Credits, Provisional certificates, Scholarships and Transcripts

Comptroller

Business and financial arrangements

Dean of the School of Applied Arts and Sciences

Matters relating to vocational education

Dean of the School of Business

Dean of the School of Education

Professional courses and permanent certification

Dean of the School of Graduate Studies

Graduate offerings

Dean of the School of Liberal Arts and Sciences

Dean of Men or Dean of Women

Student housing and part-time employment

Director of Counseling

Counseling and guidance

Director of Field Services

Adult Education, In-Service courses and credits, Consultative services to schools, Speakers for special occasions

Director of the Division of Military Science

R.O.T.C.

Director of Placement

Teacher placement, Business and Industrial Placement

Director of the Department of Rural Life and Education

Rural life and education, the community college-cooperative teacher education program and state limited certificates

Director of the Summer Session

Summer session offerings

*Bulletin*

**WESTERN MICHIGAN UNIVERSITY**

**KALAMAZOO, MICHIGAN**

# **UNDERGRADUATE CATALOG**

**1959 - 1960**

*with* **ANNOUNCEMENTS**

**FOR 1960 - 1961**

This university is a member of the North Central Association of Colleges and Secondary Schools, the Association of American Colleges, and of the American Association of Colleges for Teacher Education. It is approved by the Association of American Universities and the American Association of University Women.

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**VOL. 54, NO. 4**

**APRIL 1959**

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## 1959

JANUARY							FEBRUARY							MARCH							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
4	5	6	7	1	2	3	1	2	3	4	5	6	7	1	2	3	4	5	6	7	
11	12	13	14	15	16	17	8	9	10	11	12	13	14	8	9	10	11	12	13	14	
18	19	20	21	22	23	24	15	16	17	18	19	20	21	15	16	17	18	19	20	21	
25	26	27	28	29	30	31	22	23	24	25	26	27	28	22	23	24	25	26	27	28	
APRIL							MAY							JUNE							
5	6	7	1	2	3	4	3	4	5	6	7	1	2	7	8	9	2	3	4	5	6
12	13	14	15	16	17	18	10	11	12	13	14	15	16	14	15	16	17	18	19	20	21
19	20	21	22	23	24	25	17	18	19	20	21	22	23	21	22	23	24	25	26	27	28
26	27	28	29	30			24	25	26	27	28	29	30	28	29	30					
							31														
JULY							AUGUST							SEPTEMBER							
5	6	7	1	2	3	4	2	3	4	5	6	7	1	6	7	1	2	3	4	5	
12	13	14	15	16	17	18	9	10	11	12	13	14	15	13	14	15	16	17	18	19	12
19	20	21	22	23	24	25	16	17	18	19	20	21	22	20	21	22	23	24	25	26	19
26	27	28	29	30	31		23	24	25	26	27	28	29	27	28	29	30				
							30	31													
OCTOBER							NOVEMBER							DECEMBER							
4	5	6	7	1	2	3	1	2	3	4	5	6	7	6	7	1	2	3	4	1	2
11	12	13	14	15	16	17	8	9	10	11	12	13	14	13	14	15	16	17	18	19	15
18	19	20	21	22	23	24	15	16	17	18	19	20	21	20	21	22	23	24	25	26	22
25	26	27	28	29	30	31	22	23	24	25	26	27	28	27	28	29	30	31			

## 1960

JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
3	4	5	6	7	8	9	7	8	9	10	11	12	13	6	7	8	9	10	11	12
10	11	12	13	14	15	16	14	15	16	17	18	19	20	13	14	15	16	17	18	19
17	18	19	20	21	22	23	21	22	23	24	25	26	27	20	21	22	23	24	25	26
24	25	26	27	28	29	30	28	29						27	28	29	30	31		
31																				
APRIL							MAY							JUNE						
3	4	5	6	7	8	9	1	2	3	4	5	6	7	5	6	7	8	9	10	11
10	11	12	13	14	15	16	15	16	17	18	19	20	21	12	13	14	15	16	17	18
17	18	19	20	21	22	23	22	23	24	25	26	27	28	19	20	21	22	23	24	25
24	25	26	27	28	29	30	29	30	31					26	27	28	29	30		
JULY							AUGUST							SEPTEMBER						
3	4	5	6	7	8	9	7	8	9	10	11	12	13	4	5	6	7	8	9	10
10	11	12	13	14	15	16	14	15	16	17	18	19	20	11	12	13	14	15	16	17
17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24
24	25	26	27	28	29	30	28	29	30	31				25	26	27	28	29	30	
31																				
OCTOBER							NOVEMBER							DECEMBER						
2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10
9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17
16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24
23	24	25	26	27	28	29	27	28	29	30				25	26	27	28	29	30	31
30	31																			



# UNIVERSITY CALENDAR 1959-60

## FALL SEMESTER

September 12, Saturday	Registration, graduate
September 14, 15, Monday and Tuesday	Registration and Freshman orientation
September 16, Wednesday	Classes begin
November 25, Wednesday (12:00 Noon)	Thanksgiving recess begins
November 30, Monday	Classes resume
December 2, Wednesday	Principal-Freshman Conference
December 18, Friday (6:00 P.M.)	Christmas recess begins
January 4, Monday	Classes resume
January 22, Friday to January 29, Friday	Final examinations
January 24, Sunday	Mid-year Commencement
January 30, Saturday	Semester ends

## SPRING SEMESTER

February 6, Saturday	Registration, graduate
February 8, 9, Monday & Tuesday	Registration, undergraduate
February 10, Wednesday	Classes begin
April 15, Friday (12:00 Noon)	Easter recess begins
April 25, Monday	Classes resume
May 30, Monday	Memorial Day
June 3, Friday to June 10, Friday	Final examinations
June 11, Saturday	Commencement
June 11, Saturday	Semester ends

## SUMMER SCHOOL

June 20, Monday	Registration, first session
June 21, Tuesday	Classes begin
July 4, Monday	Independence Day
July 28, Thursday	Commencement
July 29, Friday	First session closes
August 1, Monday	Registration, second session
August 12, Friday	Second session closes

## PART I—*Administration*

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### State Board of Education

WALTER F. GRIES  
CHRIS H. MAGNUSSON

STEPHEN S. NISBET  
LYNN M. BARTLETT

### State Superintendent of Public Instruction

LYNN M. BARTLETT

### Executive Council of Presidents

CHARLES L. ANSPACH  
Central Michigan College

PAUL V. SANGREN  
Western Michigan University

EUGENE B. ELLIOTT  
Eastern Michigan College

EDGAR L. HARDEN  
Northern Michigan College

### Officers of Administration

Paul V. Sangren, Ph.D., L.L.D., President  
Russell H. Seibert, Ph.D., Vice President for Academic Affairs  
L. Dale Faunce, Ed.D., Vice President for Student Services and Public Relations  
Cornelius B. MacDonald, M.A., Comptroller  
John A. Goldsworth, Superintendent, Buildings and Grounds  
Paul L. Griffeth, Ph.D., Dean of Students  
James H. Griggs, Ed.D., Dean, School of Education  
George E. Kohrman, Ed.D., Dean, School of Applied Arts and Sciences  
Elizabeth E. Lichty, Ph.D., Dean of Women  
Vern E. Mabie, M.A., Director of Placement and Alumni Relations  
George G. Mallinson, Ph.D., Dean, School of Graduate Studies  
Clayton J. Maus, M.S., Registrar and Director of Admissions  
Gerald Osborn, Ph.D., Dean, School of Liberal Arts and Sciences  
John J. Pruis, Ph.D., Director, Summer Session  
Arnold E. Schneider, Ph.D., Dean, School of Business  
Donald N. Scott, M.A., Director, University Student Center and Residence Halls  
J. Towner Smith, M.A., Dean of Men  
Otto Yntema, M.A., Director, Field Services  
Leonard Gernant, M.A., Associate Director, Field Services

*Administration*

Sterling Breed, B.S., Assistant Dean of Men  
 Russell Gabier, M.A., Assistant Director of Admissions  
 Bernice G. Hesselink, Assistant Comptroller  
 Elizabeth Householder, B.S., Assistant Dean of Women  
 John G. Hungerford, M.A., Assistant Director, University Student Center  
 Vern Norris, M.A., Assistant Director of Placement  
 Keith W. Smith, Ph.D., Assistant Registrar  
 Marie L. Stevens, M.A., Assistant Dean of Women  
 Robert H. Williams, B.S., Assistant Superintendent, Buildings and Grounds

**STAFF**

Irving Barber	Supervisor, Grounds Service
Homer M. Dunham, B.A.	Athletic Records and Publicity
Eva Falk, B.A.	Secretary, Dean of Women
Margaret Feather, B.A.	Advisor, Student Aid
Kenneth R. Hawkins, M.A.	Assistant Manager, Campus Stores
Edna L. Hirsch, B.S.	Secretary, Counseling
Virginia M. Jarman	Secretary, Campus School
Lloyd E. Jesson, B.A.	Secretary to the President
Eleanor Linden, B.S.	Secretary, Teacher Education
Archie Potter, M.A.	Director, Housing
John W. Randall	Director, Food Services
Myrna Ross	Secretary, Adult Education
Leah M. Smith	Secretary, Extension
John M. Thompson	Manager, Campus Stores
Ralph Willis	Supervisor, Janitorial Services

## ADMINISTRATIVE GROUPS

### THE ADMINISTRATIVE COUNCIL

The Council meets weekly to keep informed on college affairs, to fix general administrative policies, and to coordinate and unify administrative decisions, practices, and services designed to promote the educational program of the university.

The members of the Council are: The President, Vice President for Academic Affairs, Vice President for Student Services and Public Relations, Comptroller, Registrar, Director of Field Services, Dean of Students, and the deans of the five academic schools.

### THE SENATE

The Senate is composed of members elected by the faculty and others appointed by the President to represent the departments of the University and the University at large. It meets each month to promote the common interests of the faculty and to give the faculty a share in the determination of institutional policy in such areas as the academic program, field services and student services.

Its officers for 1958-1959 are:

Walter Marburger	President
Leo C. Stine	Vice President
Robert B. Wetnight	Treasurer
Jo Nicolette	Recording Secretary
Philip Denenfeld	Corresponding Secretary

### UNIVERSITY COUNCILS, 1958-1959

The university councils are composed of members elected by the Senate for three-year terms and others who are members by reason of the office they occupy. The terms of elected members expire in June of the year indicated.

Ex Officio	Elected	
<i>Educational Policies Council</i>		
Russell Seibert, Vice President, Chairman	Ann Fuller	1959
Gerald Osborn, Dean	Chester Hunt	1959
George Kohrman, Dean	Norman Russell	1959
James Griggs, Dean		
George Mallinson, Dean	Mitchell Gary	1960
Arnold Schneider, Dean	Andrew Luff	1960
Katharine Stokes, Librarian	Reva Volle	1960
Clayton Maus, Registrar		
	Robert Limpus	1961
	John Pruis	1961
	Roland Strolle	1961



*Administration**Graduate Studies Council*

George Mallinson, Dean, Chairman	Willis Dunbar	1959
Gerald Osborn, Dean	Louis Govatos	1959
George Kohrman, Dean		
James Griggs, Dean	Frank Fatzinger	1960
Arnold Schneider, Dean	Lillian Meyer	1960
Russell Seibert, Vice President		
	George Bradley	1961
	Fred Rogers	1961

*Student Services Council*

Dale Faunce, Vice President, Chairman	Herbert Ellinger	1959
Paul Griffith, Dean of Students	Avis L. Sebaly	1959
Alan Brown, Dean of Chapel	Ann Shaw	1959
Towner Smith, Dean of Men		
Elizabeth Lichty, Dean of Women	Milton Greenberg	1960
Clayton Maus, Registrar	Candace Roell	1960
Edward Zwergel, Director of Student Health	Donald Scott	1960
Vern Mabie, Placement	Elizabeth Householder	1961
	Harry Lawson	1961
	Thomas Null	1961

*Field Services Council*

Otto Yntema, Director, Chairman	Lindsay Farnan	1959
Leonard Gernant, Associate Director	John McNally	1959
George Mallinson, Dean		
Robert Dye, Director of WMCR	Stanley Phillips	1960
Alumni Secretary	Esther Schroeder	1960
	Frank Householder	1961
	Betty Taylor	1961

**THE ATHLETIC BOARD OF CONTROL**

Cornelius B. MacDonald, Comptroller, Chairman; Dale Faunce, Vice President for Student Services and Public Relations; Mitchell J. Gary, Director of Athletics; Clayton J. Maus, Registrar; Albert Becker, Robert B. Trader, William V. Weber, John W. Gill, appointed by President; President of the W Club; Sports Editor of *The Western Herald*; President of the Student Council.

## THE FACULTY

1959 - 1960

### EMERITI

Laverne Argabright, M.A.	Associate Professor of Biology
Helen M. Barton, M.A.	Assistant Professor of Education
Grover C. Bartoo, M.A.	Professor of Mathematics
Amelia Bauch, M.A.	Assistant Professor of Education
Elsie L. Bender, M.A.	Assistant Professor of Education
Jane A. Blackburn, M.A.	Assistant Professor of Education
Harold Blair, M.A.	Professor of Mathematics
Mary Bottje, M.A.	Associate Professor of Physical Education
William R. Brown, Ph.D.	Professor of English
Grace L. Butler, M.A.	Assistant Professor of Education
William H. Cain, M.A.	Professor of Mathematics
Cora Ebert, M.A.	Assistant Professor of Education
Edith M. Eicher, M.A.	Associate Professor of English
John P. Everett, Ph.D.	Professor of Mathematics
Pearl L. Ford, M.A.	Associate Professor of Mathematics
Marion I. Hall, M.A.	Assistant Professor of Education
Lucia C. Harrison, M.S.	Associate Professor of Geography
H. Glenn Henderson, M.M.	Associate Professor of Music
George H. Hilliard, Ph.D.	Professor of Education
M. Amelia Hockenberry, B.A.	Associate Professor of Languages
Ada Hoebeke, M.A.	Assistant Professor of Languages
Fred S. Huff, M.A.	Associate Professor of Industrial Arts
Leslie A. Kenoyer, Ph.D.	Professor of Biology
James O. Knauss, Ph.D.	Professor of History
Dezena Loutzenhiser, M.A.	Associate Professor of English
Katherine A. Mason, M.A.	Assistant Professor of Education
Eloise McCorkle, M.A.	Assistant Professor of Education
Florence E. McLouth	Assistant Professor of Education
Charles S. Nichols, M.A.	Associate Professor of Industrial Arts
Ray C. Pellett, L.H.D.	Dean of Men
Effie B. Phillips, M.A.	Assistant Professor of Education
Don O. Pullin, M.A.	Associate Professor of Industrial Arts
Herbert W. Read, M.A.	Associate Professor of Physical Education
Sophia Reed, M.A.	Professor of Home Economics
Nancy E. Scott, Ph.D.	Professor of History
G. Edith Seekell, M.A.	Associate Professor of History
Laura A. Shaw, M.A.	Professor of Speech
Marion J. Sherwood, M.A.	Associate Professor of Industrial Education
Lydia Siedschlag, M.A.	Professor of Art
Bess Baker Skillman, M.A.	Assistant Professor of Education
Marion R. Spear, M.A.	Associate Professor of Occupational Therapy
George Sprau, M.A.	Professor of English
Roxanna A. Steele, M.A.	Associate Professor of Education

*Faculty*

Louise B. Steinway, M.A.	Assistant Professor of Education
Louise F. Struble, M.A.	Assistant Professor of Education
Clella Stuftt, M.A.	Assistant Professor of Education
Jean Vis, M.A.	Assistant Professor of Education
Elmer C. Weaver, M.A.	Professor of Industrial Arts
Wynand Wichers, LL.D.	Vice President
Elmer H. Wilds, Ed.D.	Professor of Education
Myrtle Windsor, M.A.	Assistant Professor of Languages

## FACULTY

- Acree, Rachel, Associate Professor of Home Economics  
B.S., Kentucky; M.A., Columbia
- Adams, David W., Assistant Professor of Education (on leave)  
B.A., Ohio Wesleyan; M.A., New York
- Adams, Sam B., Assistant Professor of Music  
B.A., Kentucky; M.A., Columbia
- Alavi, Yousef, Assistant Professor of Mathematics  
B.S., M.S., Ph.D., Michigan State
- Allen, Francis W., Cataloging and Reference Librarian  
B.S., Colby; A.B.L.S., A.M.L.S., Michigan
- Allen, William D., Assistant Director, Division of Field Services  
B.S., M.A., Ohio State
- Anderson, Agnes E., Assistant Professor of Business Education  
B.S., Ferris Institute; M.S., Tennessee
- Anderson, Robert H., Assistant Professor of Chemistry  
B.A., Baker; M.A., Ph.D., Columbia
- Ansel, James O., Associate Professor of Rural Life and Education  
B.A., Western Michigan University; M.A., Northwestern; Ed.D., Columbia
- Anton, Thelma E., Assistant Professor of English  
B.A., Michigan; M.A., Middlebury
- Archer, Hubert G., Superintendent, Paw Paw Schools  
B.A., Central Michigan; M.A., Michigan
- Arthur, Maude W., Associate Professor, Paw Paw Schools  
B.A., Iowa State Teachers; M.A., Columbia
- Asher, Eston J., Assistant Professor of Psychology  
B.S., Kentucky; M.S., Ph.D., Purdue
- Bailey, Fred, Coordinator, Muskegon Area Office, Field Services Division  
B.S., M.A., Western Michigan University
- Bailey, Keith D., Assistant Professor, Campus Schools  
B.S., M.A., Western Michigan University

- Baker, Lee O., Assistant Professor of Agriculture  
B.S., Wisconsin State; M.S., Wisconsin
- Barlock, Robert J., Sgt., Instructor in Military Science and Tactics  
B.S., Michigan Tech.
- Barnes, Betty E., Instructor in Biology (on leave)  
B.A., Kalamazoo; M.S., Wisconsin
- Bartoo, Harriette V., Professor of Biology  
B.A., Hiram; Ph.D., Chicago
- Batson, Robert J., Assistant Professor of Political Science  
B.A., Princeton; M.A., Chicago
- Beal, Edwin F., Associate Professor of General Business  
B.A., Ohio Wesleyan; M.S., Ph.D., Cornell
- Beals, Edith Carlson, Assistant Professor, Paw Paw Schools  
B.M., MacPhail School of Music
- Becker, Albert B., Professor of Speech  
B.A., Western Michigan University; M.A., Michigan; Ph.D., Northwestern
- Beeler, Fred A., Professor of Mathematics  
B.S., Alaska; M.A., Indiana; Ph.D., Michigan
- Beeler, Isabel, Associate Professor, Counseling Bureau  
R.N., Ford Hospital, Detroit; B.S., M.A., Michigan
- Behling, Robert P., Assistant Professor of Accounting  
B.S., B.A., Denver; M.S., Illinois; C.P.A.
- Beighley, Kenneth E., Instructor, Campus Schools  
B.A., Wisconsin State; M.A., Wisconsin
- Beinhauer, Myrtle T., Assistant Professor of Economics  
B.A., M.A., Drake; Ph.D., Minnesota
- Beloof, Elmer R., Associate Professor of Music  
B.M., B.S., Illinois; M.A., Ed.D., Columbia
- Beloof, Margaret Felts, Assistant Professor of Music  
B.M., Oberlin
- Bendix, John L., Associate Professor of Industrial Education  
B.S., Stout State; M.A., Minnesota
- Berger, Owen L., Assistant Professor of Music  
B.M., M.M., Boguslawski College of Music; B.S., M.A., Columbia
- Berkey, Ada E., Reference Librarian  
B.A., Mount Holyoke; A.B.L.S., Michigan; M.A., Iowa
- Beukema, Henry J., Associate Professor of Industrial Technology  
B.S., Western Michigan University; M.A., Michigan
- Bigelow, Howard F., Professor of Economics  
B.A., Wesleyan; M.A., Harvard
- Billingsley, James F., Assistant Professor of Education  
B.A., M.A., Michigan



*Faculty*

- Birkby, Arthur, Associate Professor of Music  
B.S., Temple; A.T.C.L., Trinity College, London; Mus.M., Mus.D., Philadelphia Conservatory
- Black, Donald J., Assistant Professor of Industrial Technology  
B.A., Kalamazoo; B.S.R.E., Valparaiso Technical Institute; M.A., Western Michigan University
- Blagdon, Charles A., Assistant Professor of General Business  
B.A., Kalamazoo; M.A., Michigan State
- Bodine, Gerald L., Assistant Professor of Education  
B.S., Wisconsin State; M.A., Northwestern
- Boot, Ruth, Assistant Professor, Paw Paw Schools  
B.S., Illinois; M.Ed., Wayne
- Borr, Earl, Assistant Professor, Campus Schools  
B.S., M.A., Western Michigan University
- Boven, Donald E., Associate Professor of Physical Education, Men  
B.S., M.A., Western Michigan University
- Bowers, Robert S., Professor of Economics  
B.A., Kansas Wesleyan; M.A., American; Ph.D., Wisconsin
- Boynton, James W., Associate Professor of Chemistry  
B.A., Western Michigan University; M.S., Michigan
- Bradley, George E., Professor of Physics  
B.A., Miami; M.S., Ph.D., Michigan
- Brail, Frederick R., Coordinator of Student Teaching at Muskegon  
B.A., Central Michigan; M.A., Ohio State
- Breed, Sterling L., Assistant Dean of Men  
B.S., M.A., Western Michigan University
- Breisach, Ernest A., Assistant Professor of History  
Matura, Realgymnasium Knittelfeld and Vienna VII; Ph.D., Vienna;  
Dr. rer. oec., Hochschule fuer Welthandel
- Brink, Lawrence J., Associate Professor of Industrial Education  
B.A., Western Michigan University; M.A., Michigan
- Brown, Alan S., Assistant Professor of History  
B.A., M.A., Ph.D., Michigan
- Brown, Charles T., Professor of Speech  
B.B.A., Westminster; M.A., Ph.D., Wisconsin
- Brown, Helen, Assistant Professor of Physical Education, Women  
B.S., M.A., Northwestern
- Brown, Russell W., Assistant Professor of Music  
B.P.S.M., Oklahoma State; M.Mus.Ed., Notre Dame
- Brueckheimer, William R., Head, Department of Geography and Geology  
M.A., Chicago; M.A., Ph.D., Michigan
- Brune, Elmer J., Assistant Professor of Industrial Technology  
B.S., M.A., Western Michigan University

- Brunhumer, Walter J., Assistant Professor of History  
B.A., M.A., Marquette; Ph.D., Northwestern
- Bryan, Roy C., Director, Campus Schools  
B.A., Monmouth; B.Ed., M.A., Ph.D., Columbia
- Buelke, John A., Professor of Education  
B.S., Wisconsin State, Oshkosh; M.A., Northwestern; Ed.D., Cincinnati
- Burdick, William L., Associate Professor of General Business  
B.A., Milton; M.B.A., Wisconsin
- Burge, Georgiann, Assistant Professor of English  
B.A., North Texas State; M.A., Michigan
- Butler, Charles H., Head, Department of Mathematics  
M.A., Chicago; Ph.D., Missouri
- Callan, Edward T. O'D., Assistant Professor of English  
M.A., Witwatersrand; M.A., Fordham
- Campbell, William, Assistant Professor, Paw Paw Schools  
B.A., B.S., M.A., Western Michigan University
- Carlson, Bernadine P., Instructor in English  
B.A., M.A., Western Michigan University
- Carlson, Theodore L., Professor of Economics  
B.A., Augustana; M.A., Ph.D., Illinois
- Carter, Elwyn F., Head, Department of Music  
B.A., Alma; M.A., Ed.D., Columbia
- Carter, Esther M., Assistant Professor, Campus School Library  
B.A., Earlham; M.S.L.S., Illinois
- Carter, Homer L. J., Professor of Psychology and Director, Psycho-Educational Clinic  
B.S., Wayne; M.A., Ohio State
- Chance, Faye S., Assistant Professor, Campus Schools  
B.S., M.S., Ball State.
- Chase, James K., Assistant Professor, Paw Paw Schools  
B.S., M.S., Ball State
- Chiara, Clara R., Professor of Education  
B.S., Miami; M.A., Western Reserve; Ph.D., Ohio State
- Christenson, Elmer J., Assistant Professor, Campus Schools  
B.A., M.A., Michigan State
- Clark, Edith E., Circulation Librarian  
B.A., Western Michigan University; A.B.L.S., Michigan
- Clark, Gale W., Instructor in General Business  
B.S., M.S., Indiana State
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- Robinson, Wm. McKinley, Head, Department of Rural Life and Education  
B.S., Hiram; M.A., Ph.D., Columbia

*Faculty*

- Rodden, Clarence A., M/Sgt., Instructor in Military Science and Tactics  
 Roell, Candace, Professor of Physical Education, Women  
 B.S., Eastern Michigan; M.A., Ph.D., Michigan  
 Rogers, Frederick J., Head, Department of English  
 B.A., Western Michigan University; M.A., Columbia; Ph.D., Michigan  
 Rogers, Katherine, Assistant Professor of English  
 B.A., Kalamazoo; M.A., Columbia  
 Rood, Paul, Head, Department of Physics  
 B.A., Albion; M.A., Ph.D., Michigan  
 Rosegrant, William R., Assistant Professor of English  
 B.A., Central College; M.A., Chicago  
 Rothfuss, Hermann E., Associate Professor of Languages  
 B.S., M.A., Ph.D., Minnesota  
 Rowe, Gladys L., Assistant Professor of Home Economics  
 B.S., M.A., Michigan State  
 Rowekamp, William H., Assistant Professor of Physical Education, Men  
 B.S., Missouri  
 Russel, Robert R., Head, Department of History  
 B.A., McPherson; M.A., Kansas; Ph.D., Illinois  
 Russell, Norman K., Associate Professor, Counseling Bureau  
 B.S., Western Michigan University; M.A., Michigan  
 Russell, Vera Jean, Instructor, Campus Nursery School  
 B.S., Western Michigan University  
 Sack, William A., Assistant Professor, Campus Schools  
 B.A., M.A., Western Michigan University  
 Sadler, David F., Assistant Professor of English  
 B.A., Antioch; M.A., Ph.D., Minnesota  
 Sangren, Paul V., President, Western Michigan University  
 B.A., M.A., Eastern Michigan; M.A., Ph.D., Michigan; LL.D., Ferris;  
 LL.D., Kalamazoo  
 Savage, Marjorie L., Associate Professor of Home Economics  
 B.S., Mississippi State College for Women; M.S., Iowa State; Ed.D.,  
 Illinois  
 Saye, Hazel E. Cleveland, Circulation Librarian  
 B.A., Western Michigan University; A.B.L.S., Michigan  
 Schieber, Robert W., Assistant Professor of Music  
 B.M., Illinois Wesleyan; M.M.E., Indiana  
 Schlosser, Merle J., Associate Professor of Physical Education, Men  
 B.S., M.S., Illinois  
 Schmidt, Richard H., Associate Professor of Psychology  
 B.S., M.S., Ed.D., Oklahoma State  
 Schneider, Arnold E., Dean, School of Business, and Head, Department of  
 General Business  
 B.S., Iowa State Teachers; M.A., Iowa; Ph.D., Michigan

- Schoenhals, Neil L., Associate Professor, Campus Schools  
B.S., Western Michigan University; M.A., Michigan
- Schreiber, William A., Assistant Professor of Industrial Technology  
B.S., Cooper Union; M.A., Western Michigan University
- Schroeder, Esther D., Associate Professor of Education  
B.S., Bemidji; M.A., Peabody
- Schultz, I. Beth, Assistant Professor of Biology  
B.A., Temple; M.S., Cornell; Ed.D., Florida
- Scott, Donald N., Director, University Center and Residence Halls  
B.S., Illinois; M.A., Columbia
- Scott, Frank S., Associate Professor of Industrial Technology  
B.S., M.S., Purdue
- Sebaly, A. L., Professor of Education and Director of Student Teaching  
B.A., Western Michigan University; M.A., Ph.D., Michigan
- Seber, Robert C., Associate Professor of Mathematics  
B.A., Coe; M.S., Ph.D., Iowa
- Seibert, Russell H., Vice President for Academic Affairs and Professor of History  
B.A., Wooster; M.A., Chicago; Ph.D., Ohio State
- Sellers, Helen G., Assistant Professor of English  
B.A., Michigan State; M.A., Wisconsin
- Shaw, Ann M., Assistant Professor of Speech  
B.S., M.A., Northwestern
- Shimmel, Ethel, Associate Professor, Campus Schools  
B.A., Western Michigan University; M.A., Columbia
- Slaughter, Thomas C., Associate Professor of Physical Education, Men  
B.S., Western Michigan University; M.A., Michigan
- Smith, Charles A., Associate Professor of English  
B.A., Western Michigan University; M.A., Michigan
- Smith, J. Towner, Dean of Men  
B.A., Western Michigan University; M.A., Michigan
- Smith, Keith W., Assistant Registrar  
B.S., M.S., Indiana State; Ph.D., Purdue
- Smutz, M. Elizabeth, Assistant Professor, Campus Schools  
B.A., Oberlin; M.A., Columbia
- Smythe, Ruth, Assistant Professor, Paw Paw Schools  
B.S., Eastern Michigan; M.A., Michigan
- Snow, Carl B., Associate Professor of Education and Director, Audio-Visual Center  
B.S., Western Michigan University; M.A., Columbia
- Snyder, Dorothea S., Associate Professor of Music  
B.A., Western Michigan University; M.A., Michigan
- Sokolowski, Emil J., Assistant Professor of General Business  
B.S., Detroit Institute of Technology; M.A., Michigan

*Faculty*

- Sorenson, Raymond F., Associate Professor of Physical Education, Men  
B.S., Western Michigan University; M.S., Indiana
- Soule, David, Consultant in Field Services  
B.S., Western Michigan University; M.A., Iowa State
- Spalding, Marion A., Assistant Professor of Physical Education, Women  
B.A., Western Michigan University; M.A., Columbia
- Spence, William P., Assistant Professor of Industrial Education  
B.S., Southeast Missouri State; M.Ed., Ed.D., Missouri
- Stamm, Opal, Assistant Professor of Home Economics  
B.A., Berea; M.A., Columbia
- Starring, Charles R., Professor of History  
B.A., M.A., Columbia
- Steckelberg, Mathilde, Head, Department of Language  
B.A., Nebraska; M.A., Columbia
- Steen, Edwin B., Professor of Biology  
B.A., Wabash; M.A., Columbia; Ph.D., Purdue
- Stevens, Fred L., Assistant Professor of Physical Education, Men  
B.S., M.A., Western Michigan University
- Stevens, Marie L., Assistant Dean of Women  
B.A., Mills; M.A., Syracuse
- Stevenson, Elaine L., Assistant Professor of Art  
B.A., Western Michigan University; B.A.E., Art Institute, Chicago;  
M.A., Ohio State
- Stine, Leo C., Professor of Political Science  
B.Ed., Illinois State Normal; M.A., Ph.D., Illinois
- Stinson, Bess L., Associate Professor, Campus Schools  
B.S., M.A., Peabody
- Stokes, Katharine M., Head, Library  
B.S., Simmons; A.M.L.S., Michigan
- Stout, Cyril L., Professor of Geography and Geology  
B.S., Knox; Ph.M., Wisconsin; Ph.D., Peabody
- Stout, Keith V., Assistant Professor, Hurd School  
B.S., Central Michigan
- Strickler, Alvin, Assistant Professor of Chemistry  
B.A., Eastern Michigan; B.S., M.S., Michigan; Ph.D., Wisconsin
- Strolle, Roland S., Head, Department of Education  
B.A., Northern Michigan; M.A., Minnesota; Ed.D., Michigan State
- Strong, Russell A., Publicity Director  
B.A., Kalamazoo
- Stroud, Sara Jane, Assistant Professor, Campus School  
B.A., Kalamazoo; M.A., Western Michigan University
- Stulberg, Julius, Professor of Music  
B.S., M.A., Michigan State
- Sumney, Charlotte B., Assistant Professor of Psychology  
B.S., Western Michigan University; M.A., Michigan

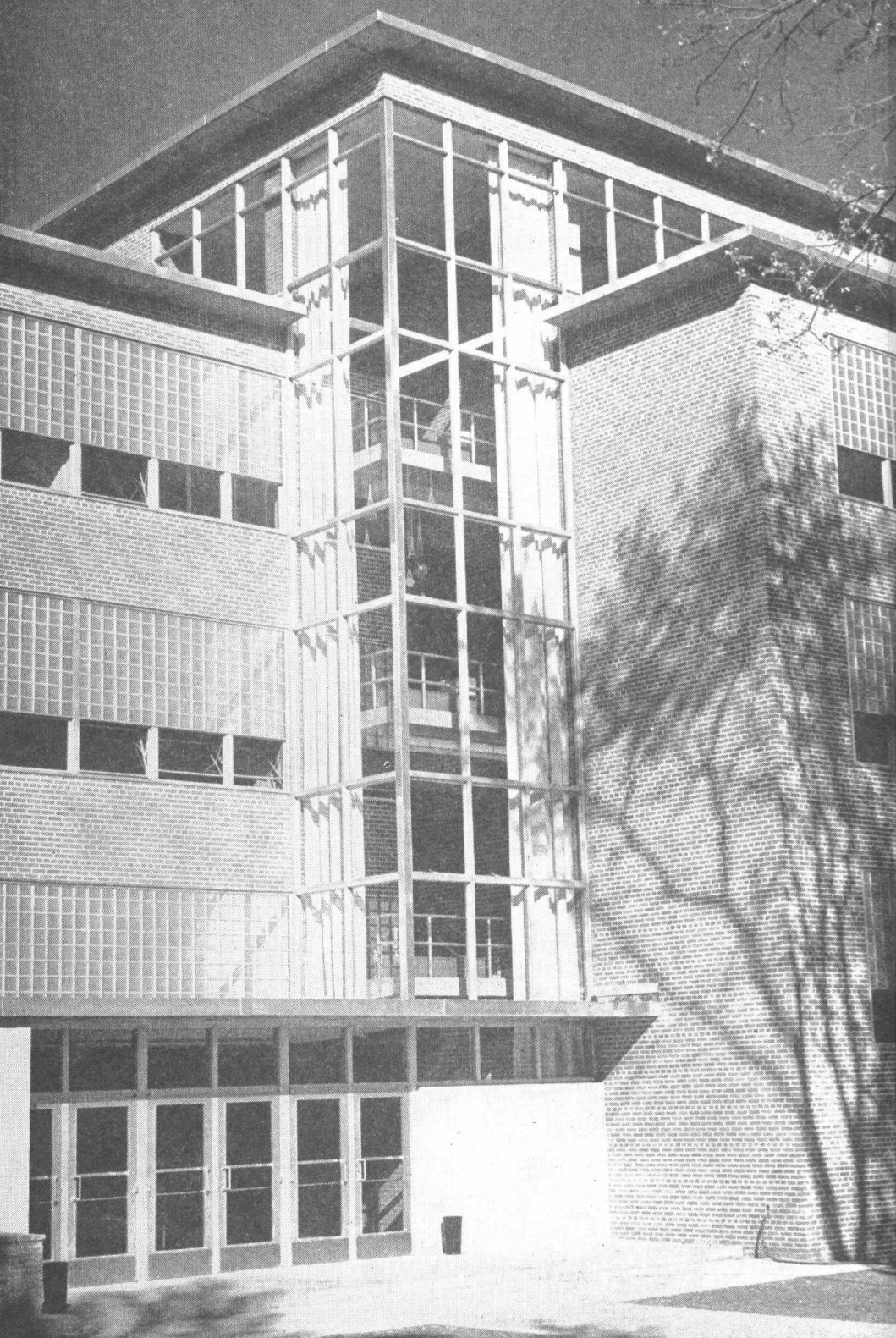
- Swickard, Sara R., Professor of Education  
B.S., M.A., Ph.D., Ohio State
- Szalkowski, Anne, Assistant Professor of English  
B.A., Western Michigan University; M.A., Michigan State
- Tamin, Marion, Assistant Professor of Languages  
Ph.B., Chicago; M.A., Columbia
- Taylor, Betty, Professor of Home Economics  
B.S., Iowa State College; M.A., Columbia; Ph.D., Michigan State
- Taylor, Robert D., Assistant Professor, Campus Schools  
B.A., Western Michigan University; M.A., Michigan
- Tedford, Anita, Assistant Professor, Campus Schools  
B.S., M.S., Eastern Illinois
- Thomas, Jane E., Assistant Professor of Occupational Therapy  
B.A., Western Michigan University; M.A., Michigan
- Thomas, Nancy L., Assistant Professor, Campus Schools  
B.S., M.A., Western Michigan University
- Topel, Robert F., Instructor, Paw Paw Schools  
B.A., Kalamazoo; M.A., Western Michigan University
- Trader, Robert B., Associate Professor of General Business  
B.S., Indiana; M.S., Pittsburgh
- Trimpe, Adrian, Head, Department of Distributive Education  
B.S., Western Michigan University; M.A., Michigan
- Trittin, Carola P., Assistant Professor of Paper Technology  
B.A., Lawrence; M.A., Western Michigan University
- Troyer, Iona L., Assistant Professor, Hurd School  
B.S., Central Michigan; M.A., Columbia
- Tuller, Elizabeth F., Assistant Professor of Chemistry  
B.A., Kalamazoo; M.S., Ohio University; Ph.D., Iowa State College
- Tydeman, James E., Annex Librarian  
B.A., B.S.L.S., Minnesota; M.A., Chicago
- Tyndall, Dean R., Assistant Professor of Occupational Therapy  
B.A., M.A., Western Michigan University
- VanderBeek, Leo C., Assistant Professor of Biology  
B.A., Western Michigan University; M.S., Ph.D., Michigan
- VanDeventer, Clarence N., Associate Professor of Industrial Technology  
B.S., Winona State; M.A., Purdue
- VanDeventer, William C., Head, Department of Biology  
B.A., Central College; M.A., Ph.D., Illinois
- VanHorn, Ruth G., Associate Professor of English  
B.A., M.A., Michigan
- VanRiper, Charles, Professor of Speech and Director, Speech Clinic  
B.A., M.A., Michigan; Ph.D., Iowa
- VanZee, Gertrude, Cataloging Librarian  
B.A., Hope; M.A.L.S., Michigan

*Faculty*

- Volle, Reva, Associate Professor of Home Economics  
B.S., Illinois; M.A., Columbia
- Vuich, George, Assistant Professor, Campus Schools  
B.A., M.A., Iowa
- Walker, Louise J., Associate Professor of English  
B.A., Albion; M.A., Columbia
- Walker, Ruth L., Assistant Professor, Campus Schools  
B.A., M.A., Western Michigan University
- Walter, James N., Captain, Instructor in Military Science and Tactics  
B.S., U. S. Military Academy
- Walters, Roy G., Assistant Professor, Campus Schools  
B.S., Minnesota State; M.A., Western Michigan University
- Ward, William T., Principal, Paw Paw Schools  
B.S., Central Michigan; M.A., Michigan State
- Weber, Ernest, Assistant Professor, Campus Schools  
B.A., Western Michigan University; M.A., Columbia
- Weber, William V., Head, Department of Political Science  
B.A., M.A., Ph.D., Iowa
- Weeks, William R., Assistant Professor of Industrial Technology  
B.S., Wayne; M.A., Western Michigan University
- Wend, Jared S., Assistant Professor of Economics  
B.A., Middlebury; M.A., Ph.D., Michigan
- Westra, Roberta M., Assistant Professor, Paw Paw Schools  
B.A., M.A., Western Michigan University
- Wetnight, Robert B., Head, Department of Accounting  
Ph.B., M.B.A., Toledo; C.P.A.
- Wichers, William A., Assistant Professor of Industrial Technology  
B.A., Hope; Certificate, Boeing School of Aeronautics; M.A., Western Michigan University
- Wietz, Roy J., Associate Professor of Physical Education, Men  
B.S., Illinois; M.A., Columbia
- Wilcox, Glade, Associate Professor of Industrial Technology  
B.Ed., Western Illinois; M.S., Ed.M., Illinois; Ed.D., Indiana
- Wilson, M. Glen, Jr., Assistant Professor of Speech  
B.S., M.A., West Virginia; Ph.D., Ohio State
- Wiseman, Merrill R., Professor of Biology  
B.A., Ohio Northern; M.S.P.H., Michigan
- Wolinski, Gertrude, Assistant Professor of Mathematics  
M.Ph., University of Warsaw, Faculty of Mathematics
- Woodruff, Esther T., Instructor in Chemistry  
B.A., M.S., Illinois
- Woods, John W., Assistant Professor of English  
B.S., M.A., Indiana

- Woolshlager, Richard J., Captain, Assistant Professor of Military Science  
and Tactics  
B.S., Syracuse
- Worner, Crystal, Head, Department of Physical Education, Women  
B.A., Eastern Michigan; M.A., Michigan
- Yankee, William J., Instructor in Psychology  
B.S., M.A., Western Michigan University
- Yntema, Otto, Director, Division of Field Services  
B.A., M.A., Hope
- York, Zack L., Head, Department of Speech  
B.A., Western Michigan University; M.S., Ph.D., Wisconsin
- Zimmerman, Elaine, Assistant Professor of Chemistry  
B.A., B.S., Greenville; M.S., Ph.D., Purdue
- Zimmerman, Theo C., Assistant Professor of Industrial Education  
B.S., M.A., Western Michigan University
- Zinser, Lester M., Assistant Professor of Industrial Technology  
B.S., M.S., Illinois
- Zoschke, Milton H., Assistant Professor, Paw Paw Schools  
B.A., Franklin; B.S., M.A., Western Michigan University
- Zwergel, Edward H., Director of Student Health  
M.D., Hahnemann Medical College







## WESTERN MICHIGAN UNIVERSITY

Western Michigan University was established by an act of the Legislature in 1903 as Western State Normal School. The state constitution places the college under the authority of the State Board of Education which consists of four members elected by the people of Michigan.

The first school year began in June, 1904, with Dwight B. Waldo as Principal. In 1905 the first building, now known as the Education Building, was completed on the original campus which lies east of Oakland Drive and contains 20 acres of land. The university now occupies more than 481 acres. After 32 years of service President Waldo tendered his resignation and became President Emeritus. During his tenure of office the school grew from a two-year normal school into a college which was recognized as an outstanding leader in the field of education. Dr. Paul V. Sangren, a member of the faculty since 1923, became President of the college in August, 1936. Since that time there has been a rapid growth in students, physical facilities, and the scope of the curricula and services.

While Western has remained true to the original purpose for which it was founded, the growing educational needs of the state have resulted in an expansion of the original intent until the university has come to be recognized as a regional institution of broad scope. Western Michigan University is still one of the leading teacher training institutions of the United States, but the preparation of teachers now represents only one of numerous important areas of study and specialization. Large numbers of students pursue courses, on both the undergraduate and graduate levels, in business, in liberal arts, in the pre-professional, and in the vocational fields.

During the first 53 years of the college a single administrative system sufficed, but in 1956 the administration of the university was completely revised to recognize the multiple nature of its programs. Five schools, each with its own dean, were organized: Applied Arts and Sciences, Business, Education, Liberal Arts and Sciences, and Graduate Studies. In February, 1957, the state legislature recognized the changes that had occurred in the character of Western by renaming it Western Michigan University.

Administrative functions of the University are housed in this structure, opened in 1952. It is also the classroom home of several departments.

## PROGRAM OF STUDY

The program of study for the first and second years is organized:

1. to provide the student with a general education which includes an integration of knowledge, skill, and perspective with regard to the processes of communication, the social sciences, the natural sciences, and the humanities; and
2. to prepare the student for undertaking the more advanced and specialized work embraced in the curricula of the third and fourth years or for more advanced work elsewhere.

This program represents sixty semester hours of work, at least half of which must fall in the Divisions of Basic Studies, Languages and Literature, Science, and Social Science. The student must complete during the first year at least two semesters of Communication or College Writing.

Admission to the program of the third and fourth years is based upon the satisfactory completion of the work outlined above or upon evidence of equivalent work done satisfactorily elsewhere. In addition, in the teaching curricula, the student must satisfy such special tests or examinations as may be prescribed or determine his general intelligence, scholastic aptitude and fitness for the teaching profession.

The program of study for the third and fourth years is organized:

1. to provide intensive cultivation of the fields of the student's special or professional interest; and
2. to broaden his general education.

The University offers the following degrees:

Bachelor of Arts  
Bachelor of Science  
Bachelor of Music  
Bachelor of Business Administration

It also conducts a graduate program leading to the master of arts degree.

## ACCREDITATION

In 1927 the university was placed on the approved list of the North Central Association of Colleges and Secondary Schools; in 1928 on the approved list of the National Council for Accreditation of Teacher Education; in 1941 on the approved list of the Association of American Universities; and in 1951 achieved membership in the National Association of Schools of Music.

## ENROLLMENT DATA

	Undergraduate	Graduate	Totals
Summer, 1954	1087	577	1664
Fall, 1954	4687	417	5104
Spring, 1955	4555	428	4983
Summer, 1955	1228	705	1933
Fall, 1955	5281	469	5750
Spring, 1956	5033	478	5511
Summer, 1956	1367	744	2111
Fall, 1956	5924	569	6493
Spring, 1957	5640	580	6220
Summer, 1957	1500	890	2390
Fall, 1957	6304	571	6875
Spring, 1958	6017	635	6652
Summer, 1958	1625	962	2587
Fall, 1958	7107	697	7804

# *Admission, Degrees and Certificates*

## ADMISSION

Qualified students will be admitted at the opening of any semester or summer session after their applications have been approved.

As the training of the mind is the first function of the university, the applicant's most important qualification is the intellectual capacity to carry on college work successfully. The best evidence of this capacity is a superior academic record attained in the student's previous schooling. Beyond this first requirement, the applicant's character, personality, promise, special abilities and readiness will also be considered by the Committee on Admissions. The university will arrange testing and personal interviews whenever they are deemed desirable.

Admission to the university is a privilege that carries with it some responsibilities. The university reserves the right to cancel matriculation and to require withdrawal whenever it becomes evident that the student is not conforming to the university's standards of scholarship and conduct.

To prepare for the university, a high school student should carry a good proportion of academic courses (languages, mathematics, science, history) and should do a good quality of work in them. He should carry the high school prerequisites to his intended curriculum as they are made known to him in consultation with his principal or counselor. Although he may be admitted to the university without these prerequisites, he will be required to make them up before he can proceed in his chosen curriculum.

## METHODS OF ADMISSION

Students may be admitted in any one of the following ways:

1. Admission by certificate: A graduate of a high school, academy or equivalent may be admitted upon presentation of an acceptable written record.
2. Admission by examination: A person who does not qualify for admission by certificate may be admitted by passing examinations prescribed by the university.
3. Admission under the secondary school-college agreement: A graduate qualified under this agreement will be admitted provided he is recommended by the school as having the ability to handle university work satisfactorily.
4. Admission by advanced standing: A student wishing to transfer from another accredited college, university or junior college, or from a Michigan county normal, may be admitted upon presentation of an acceptable written transcript of credits showing honorable dismissal. This transcript must be official, mailed directly from the institution previously

attended to the registrar of this university. Transferred credits, except those from Michigan county normals, will be acceptable only when they have been earned at a college which at the time was accredited by the North Central Association of Colleges and Secondary Schools, by an equivalent organization or by the Michigan Commission on College Accreditation. The maximum credit which may be accepted from a junior college is sixty semester hours in addition to physical education. Each transfer case is handled individually, with separate evaluation of credit.

5. Admission as a special student: (a) A person who does not plan to work toward a degree or certificate may be admitted as a special student if he presents evidence that he can profit by instruction; (b) A person who holds a Bachelor's Degree or a higher degree for which it is prerequisite, may be admitted to the university as a special student upon presentation of credentials showing that he holds such degree or degrees. A person twenty-one years of age or older who wishes to study at this university may be admitted by the Registrar with the approval of the President, provided he is unable to furnish other credentials upon which his admission might be based. Before any special student can receive a degree or certificate from this university, he must have met the requirements for admission prescribed under the other admission procedures numbered 1-4 above.
6. Admission as a guest: One who is regularly matriculated at another college may be admitted as a guest student. The student assumes full responsibility for determining whether or not the courses he takes at this university will apply on his program of study. A guest matriculant is urged to have the courses to be taken approved in advance by the Registrar of the university to which the credits are to be transferred. The principal or counselor of the student will be asked to recommend him only with respect to his moral character.

## APPLICATION FOR ADMISSION

### Freshmen

1. A prospective freshman should request an official application form from the Director of Admissions or his high school principal and complete that part as directed in the application.
2. The application should then be returned to the high school principal who will be responsible for including his high school personal data and academic record.
3. The completed application will be sent to the Director of Admissions by the principal. It is not acceptable if presented by the student.
4. The above three steps must be completed before the student can be considered for admission.
5. The student must be officially admitted before he can be counseled or enrolled, therefore all credentials must be in the office of the Registrar in advance of registration for any course.

6. Applications for admission may be sent to the college any time during the seventh semester in high school. It is preferred, however, that the application be sent after the close of the seventh semester.

### Transfers

1. An application blank must be secured from the Director of Admissions and completed according to instructions.
2. The applicant must request an official transcript be sent directly to the Registrar from *each of the colleges* he has attended. These transcripts will not be accepted if presented by the student. The record must be complete.
3. The student must be officially admitted before he receives an official evaluation of credits, is counseled or enrolled.
4. A prospective student desiring admission as a "guest" student should write to the Director of Admissions indicating the college he last attended. He should write to the college where he wishes to transfer the credit he expects to earn and have that college approve his program of study in advance of registration.

## DEGREES

The State Board of Education, on recommendation of the President and faculty of Western Michigan University, confers degrees as follows:

### BACHELOR OF ARTS

The student who regularly completes a curriculum conforming to the degree requirements and embracing at least 70 hours in the Divisions of Basic Studies, Language and Literature, Science, and Social Science, including at least eight hours in one foreign language, is eligible for the degree of Bachelor of Arts. If two or more units of one foreign language are presented for entrance, the requirements for foreign language may be waived.

### BACHELOR OF BUSINESS ADMINISTRATION

This degree will be conferred upon completion of the Business Administration curriculum as outlined in this catalog.

### BACHELOR OF SCIENCE

The student who regularly completes a curriculum conforming to the degree requirements and embracing 38 hours or more in the Divisions of Basic Studies, Language and Literature, Science, and Social Science is eligible for the degree of Bachelor of Science.

### BACHELOR OF MUSIC

This degree will be conferred upon the completion of the music curriculum as outlined in the Music Supplement Catalog. A total of 132 hours is required for graduation.

**SECOND BACHELOR'S DEGREE**

A graduate of Western Michigan University with the degree of Bachelor of Music or Bachelor of Science who subsequently becomes a candidate for the degree of Bachelor of Arts, or vice versa, is required, in addition to the credits he already has, to complete 30 hours of resident credit and to satisfy any other specific requirements for the degree. The 30 hours need not be taken subsequent to the first degree.

**MASTER OF ARTS**

Western Michigan University confers the Master of Arts degree with specialization in education, biology, chemistry, English, history, librarianship, occupational therapy, political science, psychology and sociology. For information ask for the Graduate School bulletin.

**DEGREE REQUIREMENTS**

Any curriculum leading to a bachelor's degree consists of at least 124 hours of credit.

The student must meet the following requirements or their equivalent:

**I. GENERAL REQUIREMENTS**

- a. All students must take three semester hours of government in accordance with Act 106, Public Acts of 1954.
- b. Each student must complete four semester hours of general physical education. Persons 40 years of age or older are not bound by this requirement, however. Such a waiver applies only to general physical education and not to specific curricular requirements nor to total hours required for graduation.
- c. At least two-thirds of the work beyond the second year must be in courses not open to first-year students, except where curricular requirements demand otherwise.
- d. Courses must be selected so that the requirements in at least one of the curricula are fulfilled before graduation.
- e. The student must complete a major with a minimum of 24 hours and a minor with a minimum of 15 hours. In elementary education the student may complete three minors.
- f. A minimum point-hour ratio of 2.0 must be attained in any major or minor(s) presented for graduation.
- g. Minimum residence requirements:  
It is expected that all candidates for the Bachelor's degree or full certification will have earned at least 15 hours of credit on the campus of Western Michigan.
- h. A minimum of 30 hours of credit must be taken through Western Michigan. Ten (10) of the last 30 hours must be taken through Western. Correspondence credit cannot satisfy any of the above requirements.



**2. BASIC STUDIES COURSES**

- a. Communication Area ..... 6-8 hours  
     Communication 114, 115 (8 hours) or  
     College Writing 116, 117 (6 hours)
- b. Science Area ..... 8 hours  
     Biological Science 107 (4 hours)  
     Human Geography 105 (4 hours)  
     Physical Science 108, 109 (4 or 8 hours)
- c. Social Science Area ..... 8 hours  
     Foundations of Western Civilization 100, 101  
     (8 hours) or  
     Man and Society 102, 103 (8 hours)
- d. Humanities Area ..... 6 hours  
     Humanities 220, 221 (6 hours) or  
     Humanities 222, 223 (6 hours)  
     (See counselors for alternative courses  
     temporarily permitted.)

Eight hours additional work (10 if a student took College Writing) must be elected from non-professional liberal arts courses marked by an asterisk in the Division of Basic Studies and the Departments of Art and Music, or from any non-professional courses in the Divisions of Language and Literature, Social Sciences, and Science and Mathematics.

**BASIC STUDIES EQUIVALENTS**

In determining the extent to which the Basic Studies (General Education) requirements of Western Michigan University have been met by credits earned at other colleges the following rules shall apply:

**1. Communication**

- a. A student must present at least 5.5 semester or 9 term credits in a freshman writing or communication course for a full waiver.
- b. If he presents a minimum of 2.5 semester or 4 term hours but less than 5.5 semester credits, he will be required to take either 117 (College Writing), 114 or 115 (Communication).
- c. If the institution from which he wishes to transfer credit has granted a waiver for the freshman English requirement or any part of it, this waiver will be honored by Western Michigan University, providing he substitutes a total of 6 semester or 9 term credits in the Language Division in lieu of this requirement.
- d. If he has less than 2.5 semester or 4 term credits, he will be required to meet the Basic Studies requirement in communication at Western.

## 2. Science

- a. Students who present a minimum of 8 semester or 12 term credits in physical science or in any combination of two or more of the following: physics, chemistry, biological science or earth science, will not be held for the general education requirements in the science area. Courses acceptable under the sciences include: **Biological Science:** Biology, Botany, Nature Study, Physiology, and Zoology; **Chemistry:** General College Chemistry, Industrial Chemistry (if taught by the Chemistry Department); **Earth Science:** Conservation, Geography, Geology and Meteorology; **Physics:** Astronomy, General College Physics, Technical Physics (if taught by the Physics Department).
- b. If a student presents 8 semester or 12 term credits in either physics, chemistry, biological science or earth science, he can meet the Basic Studies requirements by taking a 4 semester credit course in any of the other areas mentioned above, or physical science.
- c. Students who present a minimum of 2.5 semester credits or 4 term credits in any area mentioned above will be expected to take additional credits in another area to total 8 semester credits. If the 2.5 credits are in any combination mentioned above (or physical science), he can take the additional work in any of the areas.
- d. A student with less than 2.5 semester credits or 4 term credits will be expected to meet the Basic Studies science requirements at Western.

## 3. Social Science

- a. Any student who presents a minimum of 8 semester or 12 term credits in Western Civilization or in General Social Science or in any combination of two or more of the following subjects will be considered to have met his general education requirements in social science:

American History  
Cultural Anthropology  
Economics (Principles)  
History of Modern Europe  
Political Science (Introductory course)  
Sociology (Principles)

- b. Students who present a minimum of 8 semester or 12 term credits in any one of the above subjects will be expected to take two semester credits in one of the above subjects in which he does not have credit.
- c. Students who present a minimum of 6 semester or 9 term credits but less than 8 semester credits in Western Civilization, General Social Science or in any combination of two or more of the above areas will be expected to take additional hours in one of the above subject areas to bring the total to 8 semester credits.

- d. Students who present a minimum of 4 semester or 6 term credits but less than 8 semester credits in Western Civilization, General Social Science or any of the above areas will be expected to take additional work in Western Civilization, General Social Science or in one of the above subject areas in which he does not have credit, to total 8 semester credits.
- e. If a student has less than 3 semester or 5 term credits, he will be expected to meet the Basic Studies requirement at Western.

#### 4. Humanities

Students who present a minimum of six semester or nine term credits in combination of courses representing at least two of the following fields — art, music, literature, foreign language, and philosophy — will be considered to have met the general education requirements in the Humanities.

#### 5. Exemptions and Comprehensive Examinations

- a. Any student having a major or two minors in either the physical science area (physics and/or chemistry) or in the geo-biological science area (biology and/or earth science) is exempt from four hours of his Basic Studies science requirement, with the provision that the remaining four hours must be taken in the opposite area.
- b. Any student having a minimum of two minors in biology, earth science, chemistry and/physics, is exempt from the full eight hours of the Basic Studies science requirement, provided that the two minors are divided between the physical science area and the geo-biological science area.
- c. Any student who possesses reasonable competence in science but does not qualify for an automatic waiver under (a) or (b) above may be exempted from four hours of the Basic Studies science requirement by completing a comprehensive examination in any one of the three science fields, but he may be exempted from the full eight hours only by satisfactorily completing the examinations in two fields.

This shall not be interpreted as preventing the inclusion of all three of the general education science fields in the Elementary Curriculum either by taking the courses or by comprehensive examinations in them.

- d. The comprehensive examination in each field shall approximate in level of difficulty the final examination given in the course and "satisfactorily completing" it shall be interpreted as attaining a grade on it equivalent at least to a "C".

## MAJOR AND MINOR REQUIREMENTS

A major is a sequence of courses totaling a minimum of 24 hours; a minor is a sequence of courses totaling a minimum of 15 hours. Under certain conditions students may elect beyond this minimum up to a maximum of 40 hours offered by any department.

1. The student's major and minors will be his subject specialization, such as: mathematics, accounting, biology and chemistry.
2. His curriculum may be general or specific preparing him for a specialized career or profession such as business, medicine, law, auto mechanics and engineering.
3. Students should consult the departmental advisers for approval of their major and minor programs as soon as it is known what they are to be and by the last semester of the junior year.
4. The candidate for a degree must complete a major and a minor. A candidate for the elementary provisional certificate may elect, instead, three minors for a minimum of 15 hours each.
5. In certain cases "group" majors totaling a minimum of 30 hours and "group" minors totaling a minimum of 20 hours are permitted. They usually consist of courses selected from the related departments of a division (see the Division of Social Sciences and the Division of Science and Mathematics).
6. General Education courses are partially acceptable toward major and minor requirements.
7. Minors may often be related to majors, so as to recognize naturally or closely related fields; for example, mathematics and physics, history and geography, literature and history, etc.
8. It is usually not permissible to use education as a major or minor in any undergraduate curriculum.
9. The following courses are not to be counted as satisfying major and minor requirements:
  - a. Required courses in College Writing or Communication
  - b. Required courses in education
  - c. Required courses in general physical education
  - d. Basic ROTC courses.
10. A combination of foreign languages, or of English or American Literature with a foreign language, is not permissible. A major or minor must be in one language only.
11. Mathematics may not be combined with science (physics, geography, chemistry, biology) for any major or minor sequence.

## MICHIGAN TEACHERS' CERTIFICATION

The following types of teaching certificates are granted:

1. State Elementary Provisional Certificate
  - a. This certificate qualifies the holder to teach for a period of five years in the elementary grade in any public school in Michigan.

*Michigan Teachers' Certification*

- b. The candidate must meet the requirements for a degree as defined above.
  - c. The holder of the Provisional Certificate may be issued the State Elementary Permanent Certificate when the candidate shall have met the following conditions:
    - 1) Application must be made to the university within one year following the expiration of the Provisional Certificate.
    - 2) The candidate must submit satisfactory evidence that he has taught successfully during the life of the certificate for not less than three years in elementary schools.
    - 3) The holder of an Elementary Provisional Certificate issued after July 1, 1945, must have earned in addition 10 hours of acceptable college credit.
  - d. For procedure for permanent certification see below.
2. State Secondary Provisional Certificate
- a. This certificate qualifies the holder to teach for a period of five years in the secondary grades in any public school in Michigan, in subject or subject fields indicated on the certificate.
  - b. The candidate must meet the requirements for a degree as defined above.
  - c. The holder of the Provisional Certificate may be issued the State Secondary Permanent Certificate provided the candidate shall have met the following conditions:
    - 1) Application must be made to the university within one year following the expiration of the Provisional Certificate.
    - 2) The candidate must submit satisfactory evidence that he has taught successfully during the life of the certificate for not less than three years in secondary schools.
    - 3) The candidate must have earned in addition 10 hours of acceptable college credit.
  - d. For procedure for permanent certification see below.
3. State Limited Certificate
- a. This certificate qualifies the holder to teach in the state of Michigan for a period of one year in any school district except a school district which maintains an approved high school.
  - b. The candidate shall present credits satisfying a prescribed curriculum aggregating 62 hours.
  - c. The candidate shall have satisfactorily completed in residence on campus at this institution 15 hours.
  - d. The candidate shall have been in residence at this institution the semester or summer session immediately preceding graduation.
  - e. In accordance with State regulations, an initial State Limited Certificate will not be issued after June 30, 1960.

## PROCEDURE FOR PERMANENT CERTIFICATION

The holder of a Provisional Certificate, who has fully met the requirements, may be issued a Permanent Certificate. Below is outlined the procedure to be followed:

1. The candidate will
  - a. obtain from the Dean of the School of Education an application blank. This may be done after three years of teaching under the Provisional Certificate, but it must be done within one year following the expiration of the Provisional Certificate.
  - b. fill out the application as required and return it to the university.
  - c. return with the application blank his Provisional Certificate with his Teacher's Oath attached.
2. The University will
  - a. investigate the qualifications of the candidate, ascertain if he satisfies requirements for permanent certification.
  - b. recommend the candidate to the State Board of Education for permanent certification if his qualifications are found satisfactory.

## MISCELLANEOUS PROVISIONS REGARDING CERTIFICATES

1. A candidate presenting credits as a graduate of a Michigan County Normal School and who in addition thereto presents entrance credits satisfying the requirements of this institution shall be granted:
  - a. toward the Provisional Certificate, 25 hours;
  - b. toward the State Limited Certificate, 25 hours.
2. Each student enrolling for credit in *correspondence* courses after December 31, 1951, shall be limited to 15 hours on a degree program or 8 hours on a State Limited Certificate program. Students having completed more than 15 hours but not to exceed 30 hours on a degree program, or 8 hours and not to exceed 15 hours on a State Limited Certificate program are entitled to such credit if used prior to June 30, 1957.
3. No teacher's certificate will be granted to any person who is less than eighteen years of age.
4. No teacher's certificate will be granted to any person who is not a citizen of the United States or who has not declared his intention of becoming a citizen.
5. A person who holds an expired provisional certificate may renew such certificate and restore it to good standing by completing 10 hours of acceptable college work. Application for reinstatement must be made through the institution upon whose recommendation the certificate was issued. For an application for reinstatement, please write to the Registrar.

## DIRECTIONS TO HOLDERS OF LIMITED CERTIFICATES

State Limited Certificates received after July 1, 1956, will be valid for one year from date of issue. The State Limited Certificate qualifies the holder to teach in the elementary grades of any school district except a school district which maintains an approved high school.

No person can be employed to teach in any school district unless he is legally qualified by holding a valid certificate. In order that the holder of any limited certificate may retain without interruption his status as a legally qualified teacher, he must make application for renewal to the State Board of Education between April 1 and September 1 of the year the certificate expires; if the candidate on the expiration of the certificate does not arrange for renewal as here stated, he will forfeit his status as a legally qualified teacher, and therefore will not be permitted to teach. He will however, remain eligible to make application for renewal until June 30 of the year following expiration of his certificate, after which date renewal privileges are cancelled.

1. The holder of a State Limited Certificate may be issued a State Limited Renewal Certificate provided the candidate shall have met the following conditions:
  - a. Subsequent to the date of issue of the last certificate held, the candidate must have acquired 6 s. h. of credit of an average grade of "C" or better, earned in an institution or accepted by an institution approved by the State Board of Education. These credits must be applicable toward the requirements of the curriculum prescribed for the State Provisional Certificate eventually desired.
  - b. In order to assure that the credits earned toward renewal will apply on the State Provisional Certificate curriculum at the institution where the candidate intends to qualify eventually for that certificate, *the candidate should arrange in advance in each case to have his course selections approved by that institution.* Also all credits, wherever earned, should be submitted to that institution for evaluation and by it transmitted to the State Board of Education with recommendations.
2. Effective September 1, 1955, the holder of a County Limited Certificate may be issued a County Limited Renewal Certificate, each valid for one year provided the candidate shall have met the following conditions:
  - a. Subsequent to the date of issue of the last certificate held, the candidate must have acquired 6 s. h. of credit of an average grade of "C" or better, earned in an institution or accepted by an institution approved by the State Board of Education. These credits must be applicable toward the requirements of the curriculum prescribed for the State Limited Certificate and for the State Provisional Certificate.

- b. In order to assure that the credits earned toward renewal will apply on the State Limited Certificate curriculum and on the State Provisional Certificate curriculum at the institution where the candidate intends to qualify for either certificate, *the candidate should arrange in advance in each case to have his course selections approved by that institution.* Also all credits, wherever earned, should be submitted to that institution for evaluation and by it transmitted to the State Board of Education with recommendations.
- c. Only five County Limited Renewals will be issued to any candidate. To be qualified for teaching at the expiration of the fifth County Limited Renewal Certificate, the candidate must qualify for a State Limited or higher ranking certificate.

Note.—More complete information concerning the several teachers' certificates may be obtained from Bulletin No. 601, Teachers' Certification Code, published by the Superintendent of Public Instruction, Lansing, Michigan. 1942 Revision.

## ADDITIONAL REGULATIONS

1. Before being admitted to the regular program of work of the third year, a candidate for a teaching certificate shall have satisfied his Basic Studies' requirements in Communication or College Writing, Science and Social Science.

2. All students who expect to obtain a degree and teaching certificate are required to present credits in the following courses: Human Growth and Development 250, Introduction to Directed Teaching 300, and Directed Teaching, Laboratory in Education, and General Educational Problems 450, 410 or 420.

3. Minimum residence requirements: The minimum residence requirement is thirty (30) semester hours. Of these thirty hours, fifteen hours must be earned on this campus. Of the final thirty hours earned for the degree, ten hours must be earned from this university. Correspondence credit may not be applied to meet any of the above requirements.



# *Student Responsibilities*

## CHANGING COURSES

Necessary changes in enrollment must have been made by the end of the first complete week of a semester. Permission to drop courses will be given to upperclassmen for adequate reasons through the third complete week of a semester; to freshmen, through the fourth week. A mark of "WP" will be recorded for a subject dropped after the above time limits, if the student is then doing passing work; a mark of "WE" if the student is then failing, and a mark of "E" if the course is dropped without written permission.

## CLASS ATTENDANCE

Students are responsible directly to their instructors for class and laboratory attendance as well as for petitions for excuses for absences.

Students who anticipate being absent or who have had prolonged periods of absence should confer with the appropriate dean and give explanation concerning their cases. But such "explanations of absences" are not to be construed by instructors as constituting "excuses for absences." The "cut system" is not recognized.

## CLASS LOAD

A student may not enroll for more than seventeen hours of work, during any semester, except by special permission, unless curriculum requirements indicate otherwise. (This is considered to be a "normal load.") This regulation applies to total credit for work taken by extension or in some other institution, in addition to credit desired in residence at Western.

A student may make application for "extra hours" by securing an application blank from the Registrar, filling it out, and filing it with him. The maximum load for a given student is regulated on the basis of apparent ability and other pertinent factors.

A student in his first semester at Western rarely is permitted to carry "extra hours."

The normal maximum load for summer session students is six hours.

Students employed part-time should reduce their class loads proportionately. If a student works full time, his academic load should not exceed 10 to 12 hours.

Full time teachers will be limited to a maximum of 6 hours each semester either on campus, through Field Services or both.

By special permission, a student who received a point-hour ratio of 3 or more in the preceding semester and who had no "incompletes," may carry a program rising to a maximum of 19 semester hours.

No full time teacher may enroll at any time in more than two courses offered by the Field Service Division.

## CLASSIFICATION

Students at Western Michigan University are classified officially as follows:

- Freshmen — Students credited with 0-25 hours inclusive.
- Sophomores — Students credited with 26-55 hours inclusive.
- Juniors — Students credited with 56-87 hours inclusive.
- Seniors — Students credited with 88 hours or more.

## COLLEGE ABILITY TESTS

Tests of ability to do university work acceptably are required of each student upon entrance. This applies not only to freshmen but to upperclassmen as well. The results of these tests are of service in advising students regarding their scholastic work and therefore are to be taken before the student is counseled.

## COMMENCEMENT

All students who complete the requirements for graduation and are entitled to receive degrees and/or certificates are expected to be present at the commencement exercises.

## CONDUCT

Conduct in harmony with the ideals of the institution is expected of each student. Effort is made to stimulate the student to earnest, honest endeavor, and to develop new and worthy interests. In the furtherance of this policy, a Dean of Women and a Dean of Men devote their time to matters pertaining to the welfare of the student body. They may be consulted freely on any matter in which they can be of assistance.

The university has never assumed an attitude of paternalism toward its students. On the assumption, however, that the student has entered the institution for the definite purpose of educational advancement, regularity of class attendance, reasonable evening hours, and a sane social program are required.

The university is opposed to the use of liquor in any form. It will not allow the use of liquor at university functions, in university buildings, or on university property. Students entering their rooming places, either residence halls or private houses, under the influence of liquor, and students who introduce liquor into any rooming place or university building will be subject to dismissal from the university.

## COURSE NUMBERING SYSTEM

The course numbering system is limited to three digits. The first digit indicates the level of work. The second digit indicates an area of study within the series or level. The third digit indicates the specific course number in each area and each series. Undergraduate courses are numbered from 100 through 599. Graduate courses are numbered 600 through 799.

Course Numbers	Level
0 - 99	Non-credit and terminal courses that may not be applied toward degree programs.
100 - 199	Courses primarily for Freshmen
200 - 299	Courses primarily for Sophomores
300 - 399	Courses primarily for Juniors and Seniors
400 - 499	Courses primarily for Seniors
500 - 599	Courses for advanced undergraduates and graduate students
600 - 699	Courses for graduate students only
700 - 799	Graduate Seminars, Theses, Independent Research, etc.

Generally speaking, an even numbered third digit is the first half of the course and an odd numbered third digit is the second half of the course. Courses that terminate at the end of one semester and may not be divided into two courses in the immediate future may be assigned an odd numbered third digit to protect the system from becoming overloaded with even numbered third digits. Frequently, applied music has variable credit and will be two digits with a prefix of either "H" or "Z."

The number of a course which has been discontinued is not to be reassigned for a period of five years. It is the responsibility of the Registrar to approve course numbers and keep an accurate file of all courses and assigned numbers.

## CREDIT FOR MUSIC ACTIVITIES

1. A maximum of two hours of academic credit annually is given for one year's regular participation in any of the music ensembles.

2. Eight hours of academic credit is the maximum allowed for participation in any one of the music ensembles.

3. A grand total of not to exceed twelve hours of academic credit is allowed for participation in the music ensembles.

4. Participation in Band may be substituted for physical education credit up to a maximum of three hours. A minimum of one hour of credit must be earned by actual participation in general physical education classes by each student who is participating in the University Band. Substitution of University Band participation for physical education credit during second semester is possible only if the student has participated in the University Marching Band during the first semester.

5. Official enrollment cards must bear notations of the work in music the student wishes to carry. Semester-hour values must be indicated.

## EXAMINATIONS

1. A final examination is given in every course in accordance with the official schedule issued each semester. No examination may be held except as announced in this schedule, and no date of examination may be changed without special permission of the Examination Schedule Committee.

*Student Responsibilities*

2. Students are required to take examinations in all courses in which they are enrolled.

3. Students may not request an examination at any other than the scheduled time. Any unavoidable conflict should be reported to the registrar as soon as known so that special arrangements can be made.

4. Failure to meet the schedule due to illness is to be reported to the appropriate dean immediately.

**EXPENSES****1959-60 FEES FOR UNDERGRADUATES**

Semester Hours	Resident Students			Non-Resident Students		
	Tuition	*Local Fees	TOTAL	Tuition	*Local Fees	TOTAL
1 - 2	10.00	23.00	33.00	20.00	23.00	43.00
3 - 4	20.00	29.00	49.00	40.00	29.00	69.00
5 - 6	30.00	35.00	65.00	60.00	35.00	95.00
7 - 8	40.00	41.00	81.00	80.00	41.00	121.00
9 - 10	50.00	47.50	97.50	100.00	47.50	147.50
11 or more	60.00	47.50	107.50	120.00	47.50	167.50

\*These local fees are collected each semester for the support of student activities, health service, student union, library purposes, departmental laboratories, identification photograph, cap and gown, diploma, etc. The above charges for both tuition and fees apply without exception to all students enrolling.

There is a special departmental music fee for Applied Music of \$60.00 per semester for one hour per week of private instruction, or \$30.00 per semester for one-half hour per week of private instruction.

All tuition and fees must be paid in full on the established registration days; no partial payments will be accepted.

There is a special departmental fee for Flight Instruction of \$250.00 for the Pilot Training Course No. 118 which covers a maximum of forty hours flying time. The fee for Commercial Pilot Program No. 119 will be arranged individually on the basis of the current rate per hour to be flown. There is a special refund policy applicable to this course.

**AUDITOR'S FEES**

Auditors (students who attend classes but do not desire credit) are governed by the same regulations as are students desiring credit.

**LATE ENROLLMENT FEE**

By action of the State Board of Education, all students who enroll after the established registration day of a semester will be charged an additional fee of \$5.00. Checks returned by a bank constitute late registration and the same late enrollment fee will be levied.

## REFUND POLICY

Tuition and Local Fees will be refunded (according to the following schedule) when a student withdraws from university or reduces his credit load.

- a. Seven calendar days or less after paying fees or after the last official registration day, whichever is earlier — 90% of total.
- b. More than 7 calendar days and less than 22 days after the last official registration day — 60% of total.
- c. More than 21 calendar days and less than 36 days after the last official registration day — 40% of total.
- d. More than 35 calendar days and less than 50 days after the last official registration day — 20% of total.

- NOTE: 1) No refund will be granted if the student withdraws after the 49th calendar day after the last official registration day.
- 2) No refund will be granted unless applied for at the appropriate Deans' office by the 56th calendar day after the last official registration day of the semester in which the student withdraws.
- 3) No refund will be made to a student eligible for benefits under Act 245 of the Public Acts of 1935, as amended, unless request is made not more than one week after registration.
- 4) Refunds are not automatic but must be applied for at the Business Office within the prescribed time limits.
- 5) The above refund policy does not apply to late enrollment fees.

## RESIDENCE REQUIREMENTS

Residence in Michigan for the purpose of registration shall be determined according to the state constitution provision governing the residence of electors (See Article III, Sections 1 and 2); that is, no one shall be deemed a resident of Michigan for the purpose of registration in the university, unless he has resided in this state six months next preceding the date of his proposed enrollment, and no person shall be deemed to have gained or lost a residence in this state while a student in the university.

The residence of minors shall follow that of the legal guardian.

The residence of wives shall follow that of their husbands.

Persons of other countries who have taken out their first citizenship papers and who have otherwise met these requirements for residence shall be regarded as eligible for registration as residents of Michigan.

It shall be the duty of every student at registration, if there be any possible question as to his right to legal residence in Michigan under rules stated above, to raise the question with the registration officer and have such question passed upon and settled previous to registration.

In determining the residence status the designated official will apply the following rules:

*Student Responsibilities*

1. The residence of any student under the age of 21 will be determined by the residence of his parents or guardian.
2. Any student who starts as a non-resident student and who attends the university continuously from the date of his first enrollment (semester after semester exclusive of summer session) will retain the same residence status with which he started out except as outlined in No. 3 below.
3. Any student over the age of 21 residing in Michigan and who starts out as a non-resident student can be given residence status as soon as he can prove he has been accepted by an election official as a resident elector in the State of Michigan and by filing a written statement with the university declaring his intention to continue his residence status in Michigan after leaving the university.

**LIVING EXPENSES**

The following residence halls furnish board and room at \$320.50 per person per semester:

Ernest Burnham Hall (Women)	West Campus
Smith Burnham Hall (Women)	West Campus
Davis Hall (Women)	West Campus
Draper Hall (Women)	West Campus
Ellsworth Hall (Men)	West Campus
Henry Hall (Men)	West Campus
Spindler Hall (Women)	East Campus
Walwood Hall (Men)	East Campus
Zimmerman Hall (Women)	West Campus

Vandercook Hall for Men, East Campus, is the only residence hall where board is not furnished. The rate, for room only, is \$108.00 per semester, per person.

All prices quoted are on the basis of two or more students per room or suite. Due to the unsettled condition of prices for food and labor, the University reserves the right to increase the charge during the year, if in its opinion, such an increase is necessary.

Address requests for reservation in men's residence halls to the Dean of Men, and reservation in women's residence halls to the Dean of Women. All applications for resident housing must be accompanied by a \$20.00 room deposit. Make check payable to Western Michigan University.

**GRADUATION**

The candidate for degree is expected to make application for graduation by the last semester of his junior year so that his record may be checked before his senior year. The student can help to avoid the embarrassing situation of planning to participate in commencement activities when he has not met requirements.

Off-campus students are to apply before the last semester of the senior year.

## HONORS IN COURSE

Honors in Course are conferred upon graduating students who have displayed special attainments in scholarship during their university course. Such honors are announced at a special convocation.

Recipients of honors receive their degrees:

**Cum laude**—when their point-hour ratio is 3.50 to 3.69, inclusive

**Magna cum laude**—when their point-hour ratio is 3.70 to 3.89, inclusive

**Summa cum laude**—when their point-hour ratio is 3.90 to 4.00, inclusive

In computing point-hour ratios for honors in course, the following rules will apply:

1. Credits and honor points earned during a student's second to seventh semester, inclusive, only will be counted toward honors.
2. Credits and honor points earned in correspondence and extension classes as well as those transferred from other duly accredited institutions will be considered toward honors.
3. No student will be eligible for an honor in course who has not earned at least 160 honor points in this university during the interval mentioned in Rule 1.

## MARKING SYSTEM

The student receives one grade in each course that he takes. This grade combines the results of class work, tests, and final examinations. Grades are indicated by letters, to each of which is assigned a certain value in honor points per hour of credit, as shown in the table below.

Grade	Significance	Honor Points per hour credit
A	Excellent	4
B	Good	3
C	Fair	2
D	Passing	1
E	Failure	0
I	Incomplete	
W	Withdrawn	

### "I" INCOMPLETE

This is a temporary grade given for work which is passing in quality but lacking in quantity to meet course objectives. It is assigned when illness, necessary absence, or other reasons satisfactory to the instructor prevent completion of the course requirements by the end of the semester. This grade may not be given for unsatisfactory work.

*Student Responsibilities*

A grade of "I" must be removed by the termination date of the next regular semester following the date it was assigned or a grade of "E" will be recorded for the course. When the "I" is removed, a permanent grade will be recorded in its place.

An instructor who assigns a grade of "I" will submit to the Department Chairman and to the Registrar a statement of remaining requirements for removal of the incomplete grade for each student concerned.

**"W" WITHDRAWN**

A grade of "W" is given in a course when a student officially withdraws from that course or from the university preceding the established date for withdrawing from courses without penalty.

"WP" is given to indicate that a student has officially withdrawn from a course after the penalty date and was doing passing work in that course when he withdrew.

"WE" is given to indicate that a student has withdrawn from a course after the penalty date and was doing failing work when he withdrew.

**SCHOLARSHIP INDEX**

The general quality of a student's work in the university is revealed by the grades he receives in courses, the number of honor points he earns, or by his point-hour ratio.

**HONOR POINTS**

The number of honor points earned in a course is the number of semester hours credit given by the course multiplied by the number of honor points per hour of credit corresponding to the letter grade received, as shown in the preceding table. For example, a grade of B in a four hour course gives  $4 \times 3$ , or 12 honor points.

**POINT-HOUR RATIO**

A point-hour ratio is obtained by dividing the total number of honor points earned by the total number of semester hours of work for which the student is officially enrolled during any period. For example, a total of 32 honor points earned in a semester by a student officially enrolled for 16 hours of work gives a point-hour ratio of  $32/16$  or 2.0 for that semester.

**HIGH SCHOLARSHIP**

To gain a place on the High Scholarship List for a semester, a student must:

1. Have taken at least 14 hours of work during the semester.
2. Have taken not more than 8 hours of work in any one department.



3. Have a point-hour ratio of 3.64 or higher.
4. Have not more than 5 hours of B grade.
5. Have no grade below a B.

## LOW SCHOLARSHIP

1. Any student who receives grades of E in 75 per cent or more of the work for which he is officially enrolled at the end of any semester (or its equivalent) will be dismissed from the university.
2. FRESHMEN. Any freshman not on probation whose point-hour ratio for any semester falls below 1.50 will be placed on probation for his next semester in attendance.  
Any freshman currently on probation whose point-hour ratio for the semester falls below 1.70 will be dismissed from the university. He may apply for readmission; if accepted, he will be placed on probation for another semester.
3. UPPERCLASSMEN. Any student classified above freshman and not on probation whose point-hour ratio for any semester falls below 1.80 will be placed on probation for his next semester in attendance, unless he is disqualified under Rule 4, below. Any student classified above freshman and currently on probation whose point-hour ratio falls below 2.00 will be dismissed from the university. He may apply for readmission, unless he is disqualified under Rule 4, below. If accepted, he will be placed on probation for another semester.
4. No student will be granted academic probation more than three times. If he fails to raise his scholastic record above the probation level within these periods he will be dismissed from the university.
5. Rules 2, 3, and 4 will be applied to students who transfer to Western from other colleges. The scholarship level of a transfer student will be determined from his record.
6. A student will not be placed on or removed from low scholarship status as a result of work taken during a Summer Session.

## STANDARD FOR GRADUATION

No student will be graduated in any curriculum if his point-hour ratio is less than 2.00.

No student will be granted a degree or certificate at the end of a semester during which he has been on academic probation unless his honor-point ratio for that semester is 2.0 or higher.

A student may not graduate if the work taken in his final semester would result in probation or dismissal. He will then be required to remove the low scholarship status.

## TRANSCRIPTS

A student desiring a transcript of his record in this university should write to the registrar, giving dates of attendance and, if a graduate, the date of graduation. He should give all names under which he may have been enrolled. Each student is entitled to one transcript of his record without charge, but all additional copies are charged for at the rate of one dollar a copy.

## UNIT OF CREDIT

The unit of credit is the semester hour; the number of semester hours credit given for a course generally indicates the number of class periods a week.

## HOUSING REQUIRED

All freshman men not living at home are required to live in university residence halls, in so far as facilities are available. Any deviation from the above will be carefully considered through the office of the Dean of Men. Other single men under 25 years of age are required to live in residences approved by the office of the Dean of Men. A list of approved housing is available and will be furnished upon request. Single men, 25 years and older at the time of enrollment, may reside in places of their choice but are required to register their residences in the office of the Dean of Men upon enrollment in the University. All men, regardless of age, must adhere to the social regulations of the University.

All undergraduate women students under 25 years of age enrolled at Western Michigan University are required to live in university residence halls insofar as space is available, unless they are living in their own homes, or with close relatives, or unless other arrangements are approved for them in writing by the Housing Committee. This is in accordance with the ruling of the State Board of Education of July 15, 1949.

The Office of the Dean of Women will be interested in considering applications from older women students, or women students on the graduate level, for positions as assistant directors in the residence halls. This position pays board and room.

## IDENTIFICATION PHOTOGRAPH

When a student enrolls for the first time, he is required to have taken an identification photograph of which two copies are made. One copy is given to the student to serve to identify him, while a second copy is filed in the appropriate Dean's office.

# *School of Applied Arts and Sciences*

**GEORGE E. KOHRMAN,  
Dean**

**Departments:**

**Agriculture  
Distributive Education  
Home Economics  
Industrial Education  
Industrial Technology  
Military Science and Tactics  
Occupational Therapy  
Paper Technology**



The School of Applied Arts and Sciences includes the Departments of Agriculture, Distributive Education, Home Economics, Industrial Education, Industrial Technology, Military Science and Tactics, Occupational Therapy and Paper Technology.

The School seeks to assist young men and women in becoming useful and successful citizens in a democratic and technological society. At least three educational needs serve as guides in planning the various courses of study within the school. First, the critical shortage of skilled and scientific manpower in business and industry is recognized. High speed production, automation, the increasing use of electrical and atomic energy, the demand for more and better materials, the scientific developments in agriculture, and the revolutionary changes in home and family living are all indicative of the type of educational program needed by a large segment of our population.

Second, the School recognizes the personal values that should accrue to an individual from a well-planned educational program. It accepts the responsibility of contributing to the student's understanding and appreciation of himself and his surroundings, and to his emotional, physical and intellectual growth.

Third, the School attempts to assist the student in the development of desirable attitudes, habits, and character traits essential for successful living in his home, community, or occupational environment.

◀ The new Paper Industry Laboratories building offers the finest in instructional facilities for future paper industry leaders.

# I. DEGREE CURRICULA

## COOPERATIVE OCCUPATIONAL EDUCATION

### B. S. Degree

Western Michigan University is approved by the State Board of Control for Vocational Education for the Preparation of coordinators in the following fields: distributive, office, trade and industrial, or diversified occupations. Students may contact Head, Distributive Education Department, relative to a major sequence of courses.

### DIETETICS

#### B.S. Degree

First Year	S.H.	Second Year	S.H.
Chemistry 102, 103 or		Accounting 210	3
Chemistry 100, 101	8	Biological Science 107	4
Communication 114, 115 or		Elementary Design 161	2 or 3
College Writing 116, 117	6 or 8	General Psychology 200	3
Effective Living 150	2	Organic Chemistry 360	4
Foods 114	3	Sociology 200	3
Western Civil. 100, 101	8	Textiles 100	3
Physical Education	1	Physical Education	1
Electives	2	Humanities 222, 223	6
	30-32		29-30
Third Year	S.H.	Fourth Year	S.H.
Meal Preparation 214	3	Diet and Disease 410	2
Food Chemistry 340	2	Institutional Mgt. 512	3
American Gov't. 200	3	Physiology 217	3
Advanced Nutrition 510	3	Special Methods 340, 342	5
Bacteriology 312	4	Experimental Foods 518 or	
Bio-chemistry 550	2	Food Technology, 514	2
Quantity Foods 312	3	Physical Education	1
Physical Education	1	Electives	14
Nutrition 210	3		—
Psychological Aspects			30
of Business 341	3		
Electives	3		
	30		

Recommended minors: Chemistry and Combined Social Science.

Recommended electives: Home Management 350, Consumer Buying 516, Home Management Practice 352, Housing 554, Advanced Textiles 302, Food Demonstration 412, Equipment 552.

Each student is required to work twelve months in a hospital approved by the American Dietetics Association.

## ENGINEERING TECHNOLOGY

## B.S. Degree

The Engineering Technology Curriculum is designed to train technicians and associate engineers in such fields of industry as manufacturing, communication, transportation, and power. It is especially intended to give students sufficient background so they may participate in these various industries in positions involving research, design, maintenance and sales. Students enrolling in this curriculum will have an opportunity to concentrate in one of the following major areas: Drafting-Design, Machine Tool, Metallurgy and Foundry, Refrigeration and Air Conditioning, and Electricity-Electronics.

First Year	S.H.	Second Year	S.H.
*College Writing 116, 117	6	Physical Science 108, 109	
College Algebra and		or	
Trigonometry 122	5	General Physics 110	
College Algebra and		and	
Analytic Geometry 123	5	General Chemistry 102	8
Industrial Calculators 104	1	Man and Society 102, 103	
Industrial Machine Shop 152	3	or	
Engineering Drawing 230	3	Western Civilization 100, 101	8
Physical Education	2	Basic Metallurgy 155	3
**Major Option	6	Heat Transfer 160	3
	—	Industrial Welding 258	2
	31	Physical Education	2
		Major Option	6
			32
Third Year	S.H.	Fourth Year	S.H.
Humanities 220, 221 or 222, 223	6	Plant Maintenance and Safety 302	2
Technical Electricity 240	3	Testing of Materials 372	2
Elementary Statistical		Industrial Relations 200	3
Practice 260	3	Principles of Economics 200	
Business and Professional		or	
Speech 104	3	Modern Economics 502	3
Industrial Cost Accounting		Industrial Sociology 374	2
312, 313	4	Fluid Dynamics 374	2
Strength of Materials 370	2	Thermodynamics 376	2
Basic Electronics 241	3	Management Report Writing 552	2
American Government 200	3	Major Option	6
Major Options	6	Electives	8
	—		—
	33		32
	S.H.		
Major—Technology	24-25		
Minor—Recommended in any area of Liberal Arts or Business			15
Number of Semester Hours for Graduation			128

\*Communication may be substituted.

\*\*See courses listed in Major options below.

## MAJOR OPTIONS

Drafting and Design		S.H.	Refrigeration and Air Conditioning	
230—Engineering Drawing	3			S.H.
231—Descriptive Geometry	3		160—Heat Transfer	3
330—Machine Drawing and Design	3		260—Refrigeration	3
331—Industrial Design	3		262—Ventilation Systems	2
332—Architectural and Structural Drafting	3		342—Electronic Devices	3
430—Drafting for Production	3		360—Air Conditioning—Cooling	3
431—Drafting Department Practices	2		361—Air Conditioning—Heating	3
Electives—Technical	4-5		460—Air Conditioning Estimating and Layout	3
			Electives—Technical	4-5
Metallurgy and Foundry		S.H.	Electricity—Electronics	
155—Basic Metallurgy	3		240—Technical Electricity	3
254—Molding and Coremaking	3		241—Basic Electronics	3
350—Metallography	2		342—Electronic Devices	3
354—Foundry Production Techniques	3		443—Communication Electronics	3
355—Foundry Control Procedures	3		346—Industrial Electricity	3
356—Advanced Metallurgy	3		345—Industrial Electronics	3
Electives—Technical	7-8		348—Applied Measurements	3
			449—Instrumentation	3
Machine Tool		S.H.		
152—Industrial Machine Shop	3			
252—Manufacturing Processes	3			
352—Pressworking of Metals	3			
353—Mechanical Inspection	2			
453—Production Processing	2			
456—Production Tooling	3			
458—Tool Engineering	3			
Electives—Technical	5-6			



## HOME ECONOMICS IN BUSINESS

## B.S. Degree

First Year	S.H.	Second Year	S.H.
Chemistry 104, 105	8	Biol. Science 107	4
Communication 114, 115 or College Writing 116, 117	6 or 8	Clothing 202	3
Effective Living 150	2	Costume Design 204	2
Elementary Design 161	2 or 3	Home Furnishings 250	2
Foods 114	3	Home Nursing 252	2
Western Civil. 100, 101 or Man and Society 102, 103	8	Journalism 264	3
Textiles 100	3	Nutrition 210	3
Physical Education	1	Sociology 200	3
		Typewriting 182, 183	4
		Physical Education	1
		Humanities 220, 221 or 222, 223	6
	33-36		33

Third Year	S.H.	Fourth Year	S.H.
Accounting 210	3	Advanced Nutrition 510	3
Meal Planning 214	3	Consumer Buying 516	2
Amer. Gov't. 200 or St. and Loc. Gov't. 204	3	Experimental Foods 518	2
Economics 200	3	The Homemaking Center and Equipment 552	2
Family Clothing 306	2	Mar. and Fam. Relations 354	2
Food Demonstration 412	2	Quantity Foods 312	2
General Psychology 200	3	Radio or Speech	3
Home Management 350	2	Tailoring 304	3
Home Management Prac. 352	3	Electives	12
Physical Education	2		—
Electives	5		31
	31		

**INDUSTRIAL EDUCATION**

B.S. Degree

**OPTION I****Industrial Arts**

This curriculum meets the needs of students who wish a broad industrial background to enter business, industry, or teaching. The individual must have basic competence in and understanding of the various areas encompassed by the broad field of industrial arts. In addition, he must achieve a superior competence through a concentration in one of these areas. The student may major in industrial arts and minor in one of the following fields: drawing, woodwork, metalwork, electricity, graphic arts, or general shop. To accomplish this dual objective, a required minimum of 45 semester hours is necessary.

First Year	S.H.	Second Year	S.H.
College Writing 116, 117	6	Adv. Elec. 260	3
Physical Science 108, 109	8	Drawing 226	3
Drawing 120	2	Machine Shop 234	3
Woods 100	2	Machine Woodwork 205	3
Intro. Elec. 160	2	Man and Society 102, 103	8
Metals 130	3	or	
Graphic Arts 150	2	Found. of West. Civil. 100, 101	
Intro. to Indus. Ed. 170	2	Humanities 220, 221 or 222, 223	6
Phy. Ed.	2	Phy. Ed.	2
Mathematics*	5-6	Electives	4-6
Third Year	S.H.	Fourth Year	S.H.
General Shop 370	3	Shop Electives	5-7
American Gov't. 200	3	General Electives	25-27
Shop Electives**	7-9		
Gen. Electives***	17-21		

\*Students who have had one (1) unit of Geometry should enroll in the following:

- 120 Intermediate Algebra 3 hours
- 121 Plane Trigonometry 3 hours

Students who have had  $1\frac{1}{2}$  units of high school algebra and  $1\frac{1}{2}$  units of geometry should enroll in the following:

- 122 College Algebra & Trigonometry—5 hours

\*\*A concentration of 20 hours in two of the following shop areas is to be elected in terms of the student's interest.

Drawing—120, 226, 227, 322, 324, 325, 326	Woodwork—100, 306, 205, 304, 204, 278
Metalwork—130, 234, 235, 334, 336, 338	Graphic Arts, Electricity, and Gen- eral Shop—See Department Head

\*\*To become an industrial arts teacher, the individual must take: 345 Plan and Org. of School Shop, 344 Teaching of Industrial Ed., and 542 Course Planning and Construction. These are in addition to the required courses in the School of Education.

## OPTION II

## Vocational Industrial Education

Western Michigan University has been approved by the State Board for Control of Vocational Education to prepare vocational industrial teachers for the secondary schools. It is necessary for vocational shop teachers to secure four years of trade experience in order to qualify for the vocational certificate. This requirement may be partially met by securing employment in local industries while completing the college work.

During the first and second years, students will be required to follow the same sequence of courses outlined in Option I above, and in addition, during the second year, Coordinated Industry 290 and 291, six semester hours must be completed unless the student satisfactorily passes a trade comprehensive examination. At the beginning of the third year, each student, in consultation with his Major adviser, will work out a sequence of industrial courses which will adequately prepare him for work or teaching in the trade and industrial field of his choice.

**INDUSTRIAL DISTRIBUTION****B.S. Degree**

This curriculum is designed to prepare personnel for employment in industrial distributors' organizations as purchasing agents, salesmen, management consultants, warehousing executives, etc. Since some graduates may wish to enter the manufacturing rather than the distributing phase, the curriculum also provides sufficient technical and supervisory training to enable them to eventually qualify for industrial positions in such areas as production control, personnel work and purchasing.

First Year	S.H.	Second Year	S.H.
Communication 114, 115	8	Science Area	8
Industrial Processes 170, 171	6	Industrial Relations 200	3
College Algebra and Trigonometry 122	5	Technical Electricity 240	3
College Algebra and Analytic Geometry 123	5	Technical Drafting 232	2
Industrial Calculators 104	1	Social Science Area	8
Physical Education	2	Physical Education	2
Business and Professional Speech 104	3	Business Statistics 244	3
	—		29
	30		
Third Year	S.H.	Fourth Year	S.H.
Humanities 220, 221 or 222, 223	6	Purchasing Principles 358	3
Accounting 210, 211	6	Production Control 306	3
General Psychology 200	3	Time Study 305	3
Business Correspondence 242	3	Materials Handling 404	3
American Government 200	3	Conference Leadership 406	3
Small Business Management 250	3	Industrial Distribution 402	2
Salesmanship 370	3	Motion Study 304	3
Management Problems 550	3	Electives	13
Electives	2		—
	—		33
	32		
Summer	S.H.		
Occupational Laboratory Experience 522*	2		
Major—Industrial Distribution			33
Minor—Business			15

\*Students enrolled in this curriculum must spend one summer either during their junior or senior year with some industrial distributor or a student may elect Modern Industrial Practices 400.

## INDUSTRIAL ENGINEERING

## B.S. Degree

The Industrial Engineering curriculum provides the essential foundation, experience and understanding in science, mathematics, humanities and engineering so graduates may find gainful employment in industries or utilities. The Industrial Engineer is particularly responsible for the improvement and development of management and production techniques. Special emphasis is therefore, placed on studies dealing with production, planning and control, plant organization, manufacturing processes and inspection, plant safety and employee and employer relations.

First Year	S.H.	Second Year	S.H.
College Writing 116, 117	6	General College Physics 112, 113	10
General Chemistry 102, 103 or 100, 101	8	Calculus 220, 221	10
College Algebra and Trigonometry 122	5	Man & Society 102, 103 or	
College Algebra and Analytic Geometry 123	5	Western Civilization 100, 101	8
Physical Education	2	Physical Education	2
Engineering Drawing 230	3	Industrial Processes 170	3
Descriptive Geometry 231	3	Basic Metallurgy 155	3
Industrial Calculators 104	1		—
Business and Professional Speech 104	3		36
	—		
	36		
Third Year	S.H.	Fourth Year	S.H.
Industrial Cost Accounting 312, 313	4	Modern Economics 502	3
Humanities 220, 221 or 222, 223	6	Production Control 306	3
Statistical Method for Industry 360, 361	6	Statics and Kinetics 470	3
General Psychology 200	3	Time Study 305	3
Industrial Relations 200	3	Dynamics 474	3
Technical Electricity 240	3	Material Handling 404	3
Fundamentals of Industrial Supervision 300	2	Labor-Management Relations 500	3
American Government 200	3	Thermodynamics 376	2
Motion Study 304	3	Fluid Dynamics 374	2
Plant Maintenance and Safety 302	2	Electives	9
Basic Electronics 241	3	Management Report Writing 552	2
	—		—
	38		36

Semester Hours for Graduation 146

Ordinarily most students will need an additional semester or summer session to complete this curriculum.

**INDUSTRIAL SUPERVISION****B.S. Degree**

This curriculum is intended for young men and women who are planning to qualify for industrial or commercial positions in such areas as supervision, production control, time and motion study, quality control, plant management, personnel work, purchasing and other managerial areas. If a student so desires, he may elect this curriculum on a cooperative basis, that is alternating between school and employment in industry on a semester basis.

First Year	S.H.	Second Year	S.H.
Communication 114, 115	8	Social Science Area	8
Industrial Processes 170, 171	6	Science Area	8
College Algebra 122	5	Industrial Relations 200	3
College Algebra and Analytic Geometry 123	5	Technical Electricity 240	3
Industrial Calculators 104	1	Technical Drafting 232	2
Business and Professional Speech 104	3	Physical Education (or R.O.T.C.)	2
Physical Education (or R.O.T.C.)	2	Humanities 220, 221 or 222, 223	6
	—		—
	30		32
Third Year	S.H.	Fourth Year	S.H.
American Government 200	3	Management Problems 550	3
Fundamentals of Industrial Supervision 300	2	Production Control 306	3
Accounting 210, 211	6	Materials Handling 404	3
Plant Maintenance and Safety 302	2	Quality Control 308	3
Business Correspondence 242	3	Conference leadership 406	3
Elementary Statistical Practice 209	3	Time Study 305	3
Motion Study 304	3	Labor-Management Relations 500	3
Business Law 340	3	Plant Layout 501	2
Electives	5	Electives	9
	—		—
	30		32
		Summer	S.H.
		Modern Industrial Practice 400	6
Major—Industrial Supervision .....			38
Minor—Business .....			15

## MILITARY SCIENCE AND TACTICS

A four-year curriculum designed for students who wish to prepare themselves for a position of leadership in the Armed Forces.

First Year	S.H.	Third Year	S.H.
Military Science 100, 101	4	Military Science 300, 301	8
Second Year	S.H.	Fourth Year	S.H.
Military Science 200, 201	4	Military Science 400, 401	8

Attendance at six-week ROTC Summer Camp at end of third year is a part of the required course.

The program for the third and fourth years, known as the Advanced Course, meets the requirements for a Minor and may be counted as such if the student's curriculum does not prescribe specified minor sequences.

## OCCUPATIONAL THERAPY

### B.S. Degree

First Year	S.H.	Second Year	S.H.
O. T. Orientation 130	1	Humanities 220, 221	
Communications 114, 115 or		or Humanities 222, 223	6
College Writing, 116, 117	8 or 6	Anatomy 216	4
Biology 100, 101	8	Physiology 217	4
Physical Science 108 or		General Psychology 200	3
Human Geography 105	4	Abnormal Psychology 322	3
Man and Society 102, 103 or		Elementary Design 200	3
Foundations of Western		Minor Crafts 202	3
Civilization 100, 101	8	Clothing 200	2
Physical Education	1	Needlecraft 110	3
O. T. Printing 156	3	Physical Education	1
	31 or 33		32

Third and Fourth Years	S.H.		
Kinesiology 320	3	Ceramics 302	3
Neuroanatomy and		Weaving 300	3
Neurophysiology 321	2	Recreation for the	
Applied Kinesiology 332	2	Handicapped 334	2
Medical Lectures 324	2	General Shop 177	3
Neurology and Orthopedics 325	2	O. T. Special Woodshop 108	3
Psychiatric Lectures 322	2	Therapeutic Activities 310	2
Theory of O.T. 230, 231	4	Clinical Training 340	8
Theory of O.T. 430	2	Physical Education	2
Rehabilitation 432	2	Electives	13

**PAPER TECHNOLOGY****B.S. Degree**

These curricula are intended to prepare students for work in the paper industry in the scientific, manufacturing, sales and executive areas. They are foundational in nature, and provide for actual work experience during the summers in paper mills. It is expected that the student will work in mills at least two of the three summers indicated. The plan operates cooperatively through the use of any advisory committee composed of fifteen members from industry and five members from Western Michigan University. Option I stresses preparation for scientific and manufacturing areas, Option II prepares students for technical service work for the paper industry and Option III prepares students for sales positions in the paper industry.

**OPTION I**

(Preparation for scientific and manufacturing areas in the paper industry)

**FIRST YEAR**

First Semester	S.H.	Second Semester	S.H.
Communication 114	4	Communication 115	4
Trig. and College Algebra 122	5	College Algebra and Analytic Geometry 123	5
or		or	
College Algebra 124	4	Analytic Geometry 125	4
Gen. Chemistry 100 or 102	4	Gen. Chemistry 101 or 103	4
Mech. Drawing 226 or 230	3	Orient. to Paper Tech. 101	1
Orient. to Paper Tech. 100	1	Physical Education (or R.O.T.C.)	1
Physical Education (or R.O.T.C.)	1	Electives**	3
Electives **	1		
<hr/>		<hr/>	
18-19		17-18	

**SUMMER**

Mill Practice 99 ..... No Credit

**SECOND YEAR**

First Semester	S.H.	Second Semester	S.H.
Economics 200	3	Economics 201	3
Calculus 222	4	Calculus 223	4
Physics 112	5	Physics 113	5
Qualitative Analysis 220	4	Quantitative Analysis 222	4
Pulp and Paper Manufacture 240	2	Pulp and Paper Mfg. 241	2
Physical Education (or R.O.T.C.)	1	Physical Education (or R.O.T.C.)	1
<hr/>		<hr/>	
19		19	

**SUMMER**

Mill Practice 210 ..... 2 hours



## THIRD YEAR

First Semester	S.H.	Second Semester	S.H.
Man and Society 102	4	Man and Society 103	4
Language and Literature*	3-4	Language and Literature*	3-4
Organic Chemistry 360	4	Organic Chemistry 361	4
Evaluation of Pulp and Paper 320	2	Evaluation of Pulp & Paper 321	2
Fiber Microscopy 322	1	Elem. of Indust. Chem. 331	2
Elem. of Indust. Chem. 330	2	Wood Chemistry 332	2
		Coloring & Filling of Paper 340	1
	16-17		18-19

## SUMMER

Mill Practice 310	2 hours
Mill Inspection Trip 312	1 hour

## FOURTH YEAR

First Semester	S.H.	Second Semester	S.H.
Language and Literature*	3-4	Language and Literature*	3-4
Physical Chemistry 530	5	Physical Chemistry 531	5
Bleaching, Pulp Purification, De-inking 440	1	Auxiliary Equipment for Pulp and Paper Mills 400	1
Converting of Paper 442	1	Research Problems in Pulp and Paper 571	2
Chem. and Tech. of Plastics 530	2	Principles and Practice of Coated Paper Mfg. 540	1
Research Problems in Pulp and Paper 570	2	Electives**	3
Amer. Natl. Govt. 200	3		
	17-18		15-16

\*Recommended courses: third year, German; Fourth year, Scientific German.

\*\*Recommended electives: Engineering Materials 210; Accounting 210, 211; Metal Processing 250; Business Correspondence 242; Industrial Cost Accounting 312, 313; Business Law 340, 341; Fundamentals of Industrial Supervision 300; Quality Control 308; Introduction to Electronics 360; Production Control 306; Electrical Measurements 562; Management Report Writing 552; Statistical Methods for Industry 360, 361.

## OPTION II

(Preparation for technical service work for the paper industry)

## FIRST YEAR

First Semester	S.H.	Second Semester	S.H.
Communication 114	4	Communication 115	4
Trig. and College Algebra 122	5	College Algebra and Analytic Geometry 123	5
or		or	
College Algebra 124	4	Analytic Geometry 125	4
Gen. Chemistry 100 or 102	4	Gen. Chemistry 101 or 103	4
Mech. Drawing 226 or 230	3	Orient. to Paper Tech. 101	1
Orient. to Paper Tech. 100	1	Physical Education (or R.O.T.C.)	1
Physical Education (or R.O.T.C.)	1	Electives**	3
Electives**	1		
	18-19		17-18

## SUMMER

Mill Practice 99 ..... No Credit

## SECOND YEAR

First Semester	S.H.	Second Semester	S.H.
Man and Society 102	4	Man and Society 103	4
Business Studies*	3	Business Studies*	3
Gen. Physics 110 or 112	4-5	Gen. Physics 111 or 113	4-5
Qualitative Analysis 220	4	Quantitative Analysis 222	4
Pulp and Paper Mfg. 240	2	Pulp and Paper Mfg. 241	2
Physical Education (or R.O.T.C.)	1	Physical Education (or R.O.T.C.)	1
	18-19		18-19

## SUMMER

Mill Practice 210 ..... 2 hours

## THIRD YEAR

First Semester	S.H.	Second Semester	S.H.
Language and Literature	3-4	Language and Literature	3-4
Organic Chemistry 360	4	Organic Chemistry 361	4
Eval. of Pulp and Paper 320	2	Eval. of Pulp and Paper 321	2
Fiber Microscopy 322	1	Coloring and Filling of Paper 340	1
Elem. of Indust. Chemistry 330	2	Elem. of Indust. Chemistry 331	2
Business Studies*	3	Business Studies*	3
Electives**	2	Electives**	2
	17-18		17-18

## SUMMER

Mill Practice 310 .....	2 hours
Mill Inspection Trip 312 .....	1 hour

## FOURTH YEAR

First Semester	S.H.	Second Semester	S.H.
Language and Literature	3-4	Language and Literature	3-4
Converting of Paper 442	1	Auxiliary Equipment for Pulp	
Chem. and Tech. of Plastics 530	2	and Paper Mills 400	1
Economics 200	3	Principles and Practice of	
Business Studies*	5	Coated Paper Mfg. 540	1
Amer. Natl. Govt. 200	3	Economics 201	3
—	—	Business Studies*	5
17-18	17-18	Electives**	4
			17-18

\*Suggested Courses in Business Studies: Accounting 210, 211; Inter. Accounting 310, 311; Advanced Accounting 510, 511; Industrial Cost Accounting 312, 313; Cost Accounting 512; Bus. Correspondence 242; Management Report Writing 552; Bus. Statistics 244; Office Organization 252; Bus. Law 320; Insurance Principles 224; Personnel Admin. 370; Management Problems 550; Salesmanship 370; Sales Management 376; Advertising 374; Credit Management 324; Problems in Marketing 378; Purchasing Principles and Practices 358; Office Management 556; Advanced Salesmanship 570.

\*\*Recommended Electives: Statistical Practice 260; Engineering Materials 210; Metal Processing 250; Intro. to Indus. Psych. 340; Fundamentals of Industrial Supervision 300; Quality Control 308; Production Control 306; Intro. to Electronics 360; Electrical Measurements 562; Intro. to Statistical Analysis 560.

## OPTION III

(Preparation for sales positions in the paper industry)

## FIRST YEAR

First Semester	S.H.	Second Semester	S.H.
Orient. to Paper Tech. 100	1	Orient. to Paper Tech. 101	1
Communication 114	4	Communication 115	4
Man and Society 102	4	Man and Society 103	4
Gen. Chemistry 100 or 102	4	Gen. Chemistry 101 or 103	4
Mathematics 120 or 124	3-4	Mathematics 121 or 125	3-4
Physical Education (or R.O.T.C.)	1	Physical Education (or R.O.T.C.)	1
	17-18		17-18

## SUMMER

Mill Practice 99 .....	No Credit
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*School of Applied Arts and Sciences*

## SECOND YEAR

First Semester	S.H.	Second Semester	S.H.
Pulp and Paper Mfg. 240	2	Pulp and Paper Mfg. 241	2
Qualitative Analysis 220	4	Quantitative Analysis 222	4
General Physics 110	4	General Physics 111	4
Principles of Economics 220	3	Principles of Economics 201	3
General Psychology 200	3	Psychological Aspects of Bus. 341	3
Physical Education (or R.O.T.C.)	1	Physical Education (or R.O.T.C.)	1
	—		—
	17		17

## SUMMER

Mill Practice (sales dept. or wholesale house) 210	2 hours
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## THIRD YEAR

First Semester	S.H.	Second Semester	S.H.
Eval. of Pulp and Paper 320	2	Eval. of Pulp and Paper 321	2
Money and Credit 320	2	Money and Credit 321	2
Marketing Problems 378	3	Transportation 342	3
Economics Statistics 327	2	Graphic Arts 150	2
Salesmanship 370	3	Managerial Accounting	3
Credit Management 324	3	Business Cycles 360	2
Electives*	2	Electives*	3
	—		—
	17		17

## SUMMER

Mill Inspection Trip 312	1 hour
Mill Practice 310	2 hours

## FOURTH YEAR

First Semester	S.H.	Second Semester	S.H.
Convert. of Paper 442	1	Principles and Practice of	
Fiber Microscopy 322	1	Coated Paper Mfg. 540	1
Public Speaking I 130	3	Public Speaking II 530	2
Advertising 374	3	American Natl. Gov. 200	3
Fundamentals of Industrial		Sales Management 376	3
Supervision 300	3	Tech. and Psychological Factors	
Paper, Its Markets and Distri-		in Sales of Paper 462	3
bution 460	3	Electives*	5
Electives*	3		—
	—		17
	17		

\*Recommended Electives: Marketing 240; Business Law 340 and 341; Management Problems 550; Business Report Writing 552; Advanced Advertising 572; Marketing Research 576; Advanced Salesmanship 570, or courses in Literature.

## PRINTING MANAGEMENT

This curriculum provides for a major in printing and a minor in business administration. It is designed to train for the management side of the printing industry as supervisors, estimators, salesmen, foremen, shop owners, or technicians. While laboratory experience in operating printing machinery is given, emphasis is on machine performance, best uses, limitations, etc., rather than skill in operation.

First Year	S.H.	Second Year	S.H.
Communication 114, 115		Western Civilization 100, 101	
or		or	
College Writing 116, 117	6 or 8	Man & Society 102, 103	8
Physical Science 108, 109	8	Humanities 220, 221,	
Survey of Graphic Arts 150	2	or	
Graphic Arts 154	2	222, 223	6
Presswork 152	2	Typography I and II 250, 251	6
Business Correspondence 242	3	General Psychology 200	3
Physical Education (or R.O.T.C.)	2	Physical Education (or R.O.T.C.)	2
Elective	5	Elective	7
	<hr/>		<hr/>
	30 or 32		32
Third Year	S.H.	Fourth Year	S.H.
Layout and Design 352	3	Business Statistics 244	3
Imposition and Lockup 350	2	Management Problems 550	3
Linotype Composition 254, 255	6	Labor-Management Relations 500	3
Accounting 210, 211	6	Motion Study 304	3
Fundamentals of Industrial		Time Study 305	3
Supervision 300	2	Estimating 452	2
Plant Maintenance & Safety 302	2	Printing Production Control 453	2
American Government 200	3	Advanced Presswork 450	2
Production Control 306	3	Advertising 374	3
Elective	5	Elective	8
	<hr/>		<hr/>
	32		32

**TRANSPORTATION****B.S. Degree**

The Transportation curriculum is intended for those who wish to prepare themselves for administration and managerial positions in the field of Transportation and Related industries. Option I, The Air Transportation program is designed to train people for various positions in the Airlines and Aircraft industries. Option II, The Automotive Transportation program is designed to train people for the automotive transportation industry.

First Year	S.H.	Second Year	S.H.
Communication 114, 115	8	Science Area	8
Industrial Processes 170, 171	6	Technical Drafting 232	2
Trigonometry and College Algebra 122	5	Technical Electricity 240	3
College Algebra and Analytic Geometry 123	5	Industrial Relations 200	3
Industrial Calculators 104	1	Social Science Area	8
Major Option*	7	Physical Education (or R.O.T.C.)	2
—	—	Major Option*	6
	32		32
Third Year	S.H.	Fourth Year	S.H.
Humanities 220, 221 or 222, 223	6	Business Statistics 244	3
Accounting 210, 211	6	Management Problems 550	3
Principles of Economics 200, 201	6	American Government 200	3
General Psychology 200	3	Passenger and Freight Traffic 310	2
Business Correspondence 242	3	Transportation Problems 312	2
Physical Education (or R.O.T.C.)	2	Management Report Writing 552	2
Major Option*	4	Psychology (Either 204, 341 or 340)	2 or 3
Electives	2	Major Option*	8
—	—	Electives	6
	32		32

\*See Option I or II below

Students in Option I, the Air Transportation program, are urged to qualify themselves to take the CAA written examination for the Airframe & Powerplant Technicians License. This may be done by taking the following courses during one summer session:

Aircraft Welding 111	2 hours
Aircraft Servicing 218	4 hours

**OPTION I—Air Transportation**

Introduction to Aviation 116	3	Pilot Training 118	2
Airframes 110	4	Basic Ground School 117	2
Powerplants 112	4		
Airframes 210	4		
Powerplants 212	4		
Airline Operation 410	2		

Major—Air Transportation .....	43 S.H.
Minor—Business .....	15 S.H.

**OPTION II—Automotive Transportation**

Automotive Engines and accessories 124	4	Automotive Analysis 224	4
Automotive chassis and running gear 125	4	Automotive Engine Overhaul 225	4
		Fundamentals of Industrial Supervision 300	2
		Automotive Service Management 422	2
		Electives-Technical	5

Major—Automotive Transportation .....	43 S.H.
Minor—Business .....	15 S.H.

## II. TWO-YEAR CURRICULA

### AGRICULTURE

The completion of the courses outlined below will permit the student to enter the junior year at Michigan State University for the bachelor's degree in Agricultural Science and receive the certificate for the teaching of vocational agriculture in the secondary schools of Michigan.

First Year	S.H.	Second Year	S.H.
Communication 114, 115	8	Chemistry 100, 101 or 102, 103	8
General Biology 101	8	Agronomy 220, 221	8
Animal Industry 110, 111	8	Phy. Sci. 108, 109	8
Man & Society 102, 103	8	U. S. Hist. 210, 211	6
Phy. Ed.	1	Phy. Ed.	1
	<hr/>		<hr/>
	33		31

### AIRCRAFT & AIRCRAFT ENGINE TECHNOLOGY

CAA Approved Technical School No. 3304

CAA Approved Airman Agency No. 3-08-1

The Aircraft Technology curriculum is intended for students who wish to qualify for the Civil Aeronautics Administration Airframe and Power-plant Technicians License. Every individual performing maintenance on aircraft must hold a CAA certificate authorizing such work. The importance of this certificate cannot be over-emphasized. The two year curriculum may be applied toward meeting the requirements of the four year Air Transportation degree with no loss of credit.

Twenty-five to thirty hours per week in shop work and related subjects are offered in a modern, well equipped, government approved school shop located in the Industrial Technology Building.

Pilot training and Aircraft Servicing are available. Facilities at the airport include well equipped shops, complete airplane service, and university owned and licensed aircraft.

FIRST YEAR			
First Semester	S.H.	Second Semester	S.H.
Introduction to Aviation 116	3	Airframes 110	4
Communication 114	4	Communication 115	4
Industrial Processes 170	3	Industrial Processes 171	3
College Algebra and Trigonometry 122	5	College Algebra and Analytic Geometry 123	5
or Intermediate Algebra 120	3	Physical Education	1
Industrial Calculators 104	1		<hr/>
Physical Education	1		17



*Two-Year Curricula***SECOND YEAR**

First Semester	S.H.	Second Semester	S.H.
Power Plants 112	4	Airframes 210	4
Aircraft Welding 111	2	Power Plants 212	4
Technical Drafting 232	2	Technical Electricity 240	3
Industrial Relations 200	3	Physical Science 109	4
Physical Science 108	4		—
	—		15
	15		

Summer Program	S.H.
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NOTE: One summer session is required.

Aircraft Servicing 218	4
Pilot Training 118	2
Basic Ground School 117	2
	—
	8

**AUTOMOTIVE TECHNOLOGY**

The two-year Automotive Technology curriculum consists of practical work experience in inspecting, testing, servicing and repairing automobiles, and a study of related technical subjects that will qualify a student to work as a Technician in Automotive and Related industries.

**FIRST YEAR**

First Semester	S.H.	Second Semester	S.H.
Communication 114	4	Communication 115	4
Auto. Engines 124	4	Auto. chassis and running gear	
Industrial Processes 170	3	125	4
College Algebra and		Industrial Processes 171	3
Trigonometry 122	5	College Algebra and Analytic	
or Intermediate Algebra 120	3	Geometry 123	5
Industrial Calculators 104	1		—
	—		16
	15 or 17		

**SECOND YEAR**

First Semester	S.H.	Second Semester	S.H.
Physical Science 108	4	Physical Science 109	4
Auto. Analysis 224	4	Auto. Engine Overhaul 225	4
Industrial Relations 200	3	Technical Electricity 240	3
Technical Drafting 232	2	Physical Education	1
Physical Education	1	Technical Electives	3 or 4
Technical Electives	2 or 3		—
	—		15 or 16
	16 or 17		

**DRAFTING & DESIGN TECHNOLOGY**

This curriculum is designed specifically to prepare men and women for positions in the Industrial Drafting & Design fields of the machine and allied industries. All practical work experience in layout, detailing and design is in accordance with standard practices recommended by the American Society of Mechanical Engineers, the Society of Automotive Engineers and other recognized standardizing agencies. Related technical studies in industrial processes, production control, etc., are included in the program.

**FIRST YEAR**

First Semester	S.H.	Second Semester	S.H.
Communication 114	4	Communication 115	4
Trigonometry & College Algebra 122	5	College Algebra & Analytical Geometry 123	5
or Intermediate Algebra 120	3	Industrial Processes 171	3
Industrial Processes 170	3	Descriptive Geometry 231	3
Engineering Drawing 230	3	Physical Education	1
Industrial Calculators 104	1		—
Physical Education	1		16

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 15 or 17
**SECOND YEAR**

First Semester	S.H.	Second Semester	S.H.
Physical Science 108	4	Physical Science 109	4
Industrial Relations 200	3	Production Control 306	3
Technical Electricity 240	3	Industrial Design 331	3
Office Machines 280	2	Technical Electives	6
Machine Drawing and Design 330	3		—
	—		16
	16		

**FOUNDRY & METALLURGY TECHNOLOGY**

A foundry technician is a person who is familiar with the techniques of casting metals. This curriculum is designed to prepare personnel for the foundry industry who for the most part will be employed as laboratory technicians; inspectors, supervisors, and in research and development. If a student so desires, he may elect this curriculum on a cooperative basis, that is, alternating between school and employment in the foundry industry on a semester basis.

**FIRST YEAR**

First Semester	S.H.	Second Semester	S.H.
Communication 114	4	Communication 115	4
Basic Metallurgy 155	3	College Algebra & Analytic Geometry 123	5
Trigonometry & College Algebra 122	5	Molding and Coremaking 254	3
Industrial Calculators 104	1	Metallography 350	3
Engineering Drawing 230	3	Physical Education	1
Physical Education	1		—
	—		16
	17		

**SECOND YEAR**

First Semester	S.H.	Second Semester	S.H.
Physical Science 108	4	Physical Science 109	4
Industrial Relations 200	3	Foundry Control Procedures 355	3
Foundry Production Techniques 354	3	Advanced Metallurgy 356	3
Technical Electricity 240	3	Technical Electives	6
Plant Maintenance and Safety 303	2		—
	—		16
	15		

**HOMEMAKING**

For students who do not plan to get a degree.  
A diploma is issued at the completion of this course.

First Year	S.H.	Second Year	S.H.
Biol. Sci. 107	4	Am. Nat'l. Gov't. 202 or	
Communication 114, 115	8	St. and Loc. Gov't. 204	3
Effective Living 150	2	Clothing 202	3
Elementary Design 161	2 or 3	Costume Design 204	2
Family Foods 116	2	Everyday Nutrition 212	2
Textiles 100	3	Home Furnishings 250	2
Physical Ed.	1	Home Nursing 252	2
Electives	7 or 8	Human Growth and Dev. 254	3
To be selected from history, business		Physical Ed.	1
education, speech, English, science,		Electives	12
and home economics.	30	To be selected from sociology, busi-	
		ness education, speech, English, and	
		home economics.	30

**INDUSTRIAL ELECTRONICS TECHNOLOGY**

This curriculum is offered to students who wish to prepare themselves for gainful employment in industry as electronic technicians. The program includes a study of the generation, transmission, and utilization of electrical energy, with special emphasis on electronic circuits and devices in the operation, control, and instrumentation of industrial equipment, as well as the application of electronics in the field of automation.

**FIRST YEAR**

First Semester	S.H.	Second Semester	S.H.
Communication 114	4	Communication 115	4
Trigonometry and College		College Algebra and	
Algebra 122	5	Analytical Geometry 123	5
or Intermediate Algebra 120	3	Basic Electronics 241	3
Industrial Calculators 104	1	Physical Education	1
Technical Electricity 240	3	Heat Transfer 160	3
Physical Education	1		
Engineering Drawing 230	3		16
	15 or 17		

**SECOND YEAR**

First Semester	S.H.	Second Semester	S.H.
Physical Science 108	4	Physical Science 109	4
Industrial Relations 200	3	Technical Electives	3
Industrial Electricity 346	3	Strength of Materials 350	3
Industrial Machine Shop 152	3	Manufacturing Processes 252	3
Basic Metallurgy 155	3	Electronic Devices 342	3
	—		—
	16		16

**MACHINE TOOL TECHNOLOGY**

This curriculum is offered to students who desire a major in the field of industrial machine tool technology. Laboratory experiences and study of technical subjects to achieve competency in machine tool work, manufacturing processes, fabrication, production tooling, and press working of metals are emphasized. The intent of this course is to prepare students for employment of a technical nature in industry.

**FIRST YEAR**

First Semester	S.H.	Second Semester	S.H.
Communication 114	4	Communication 115	4
Trigonometry and College Algebra 122	5	College Algebra and Analytic Geometry 123	5
or Intermediate Algebra 120	3	Industrial Processes 171	3
Industrial Processes 170	3	Manufacturing Processes 252	3
Industrial Machine Shop 152	3	Physical Education	1
Industrial Calculators 104	1		—
Physical Education	1		16
	—		—
	17		

**SECOND YEAR**

First Semester	S.H.	Second Semester	S.H.
Physical Science 108	4	Physical Science 109	4
Pressworking of Metals 352	3	Mechanical Inspection 353	2
Industrial Relations 200	3	Technical Electricity 240	3
Engineering Drawing 230	3	Tool and Die Design 234	2
Technical Electives	3	Technical Electives	5
	—		—
	16		16

**PETROLEUM DISTRIBUTION**

This curriculum is designed to prepare students in distribution methods and techniques used by the petroleum industry. Graduates will be prepared to sell, transport, and otherwise manage the marketing and distribution of petroleum products to and through bulk plants and terminals to dealers and jobbers and other distributors, as well as to industrial and agricultural users.

The petroleum curriculum is a cooperative work-study program which combines school and work on an alternating basis. The student attends classes one semester and works on an assigned job in the petroleum industry the next semester. The students are assigned in pairs to cover one job or work area. When one student is attending classes, the other is at work on the job.

Students desiring to continue their education and graduate with a Bachelor of Science degree may do so with a major in petroleum distribution.

**TWO YEARS**

Course		S.H.
<b>1. BASIC STUDIES</b>		<b>12</b>
Communication .....	114-115	8
Physical Science .....	108	4
<b>2. SPECIALIZED STUDIES</b>		<b>24</b>
Introduction to Petroleum Industry .....	120	3
Petroleum Products Application .....	121	2
Selling Petroleum Products .....	123	3
Petroleum Prod. Handling .....	220	2
Petroleum Distribution Finance .....	227	2
Plant Survey .....	109	2
Coordinated Industry Practices .....	102-103-108	6
Coordinated Marketing Practices .....	202-203	4
<b>3. ADDITIONAL REQUIREMENTS</b>		<b>14</b>
Applied Chemistry .....	107	3
Economics .....	200-201	6
Business & Professional Speech .....	104	3
Physical Education .....		2
<b>4. SUGGESTED ELECTIVES</b>		<b>12</b>
Business Mathematics .....	100	2
Accounting .....	210-211	6
Psychological Aspects of Business .....	341	3
Others		
<b>TOTAL:</b>		<b>62</b>

## RADIO AND TELEVISION TECHNOLOGY

This curriculum is designed to provide the student with the wide technical background training that is necessary to enter such fields as radio and television broadcasting, closed circuit television work, industrial radio and television, and home radio and television servicing. Emphasis is placed on the joining of theory and practice in all phases of radio and television to furnish the student with sufficient practical work experience as well as a solid foundation in technical practices and theory.

### FIRST YEAR

First Semester	S.H.	Second Semester	S.H.
Communication 114	4	Communication 115	4
Trigonometry and College Algebra 122	5	College Algebra and Analytic Geometry 123	5
or Intermediate Algebra 120	3	Industrial Processes 171	3
Industrial Processes 170	3	Introductory Television 143	3
Industrial Calculators 104	1	Physical Education	1
Introductory Radio 142	3		—
Physical Education	1		16

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15 or 17

### SECOND YEAR

First Semester	S.H.	Second Semester	S.H.
Physical Science 108	4	Physical Science 109	4
Technical Drafting 232	2	Color Television 243	3
Industrial Relations 200	3	Technical Electives	9
Advanced Television 242	3		—
Technical Electives	4		16

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16

**REFRIGERATION & AIR CONDITIONING TECHNOLOGY**

This curriculum is offered to students who wish to enter the field of refrigeration and air conditioning in such capacities as sales engineers, field service engineers, laboratory technicians (research, design, testing or development), or manufacturer's technical representatives. The refrigeration phase covers both domestic and commercial systems with emphasis placed on selection of equipment and heat load calculations.

The air conditioning and heating phase covers the cooling, heating, humidifying, de-humidifying, purifying and distribution of air for healthful living. Emphasis is placed on selection of equipment, heat gain and heat loss calculations, cost of operation and comparative tests.

**FIRST YEAR**

First Semester	S.H.	Second Semester	S.H.
Communication 114	4	Communication 115	4
Heat Transfer 160	3	Refrigeration 260	3
Industrial Processes 170	3	Industrial Processes 171	3
Trigonometry and College Algebra 122	5	College Algebra and Analytic Geometry 123	5
or Intermediate Algebra 120	3	Physical Education	1
Industrial Calculators 104	1		—
Physical Education	1		16

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 15 or 17
**SECOND YEAR**

First Semester	S.H.	Second Semester	S.H.
Physical Science 108	4	Physical Science 109	4
Air Conditioning—Cooling 360	3	Air Conditioning—Heating 361	3
Industrial Relations 200	3	Technical Electricity 240	3
Technical Drafting 232	2	Ventilation Systems 262	2
Technical Electives	3	Technical Electives	4
	—		—
	16		16



## SUPER MARKET DISTRIBUTION

This curriculum is designed to prepare students for management positions in the super market industry. Emphasis is placed on merchandising, operations, and supervision. Graduates will be prepared to assume positions as department heads, assistant managers and managers in super markets.

The curriculum is a cooperative work-study program which combines school and work on an alternating basis. The students are assigned in pairs to cover one job or work area. When one student is attending classes, the other is at work on the job.

### TWO YEARS

Course		S.H.
1. BASIC STUDIES		16
Communication .....	114-115	8
Physical Science .....	108-109	8
or		
Man and Society .....	102-103	8
2. SPECIALIZED STUDIES		24
The Super Market Industry .....	130	3
Super Market Merchandising .....	132	3
Super Market Operations .....	232	3
Super Market Supervision .....	231	3
Plant Survey .....	109	2
Coordinated Industry Practices .....	102-103-108	6
Coordinated Marketing Practices .....	202-203	4
3. PHYSICAL EDUCATION		2
4. SUGGESTED ELECTIVES		20
Accounting .....	210-211	6
Economics .....	200-201	6
Business Mathematics .....	100	2
Business Speech .....	104	3
Foods Course .....		3
		—
	TOTAL:	62

## PART III—*Description of Courses*

### INTER-DEPARTMENTAL COURSES

#### 520 Principles of Practical Arts and Vocational Education

2 hrs. Summer, Fall

The place and function of the practical arts and vocational education in the modern school; fundamental principles upon which this work is based. For teachers of agriculture, business, home economics, industrial subjects and administrators.

#### 522 Occupational Laboratory Experience 2 hrs. Fall, Spring, Summer

A supervised business and industrial experience program involving full-time employment for at least eight weeks. Students will study and participate in experiences in a specific occupational area. Prerequisite: consent of instructor.

### AGRICULTURE

Howard D. Corbus, Head

Lee O. Baker

The Department of Agriculture recognizes the following responsibilities:

1. To provide opportunities for any student to learn more about the important part agriculture holds in the economy of the Nation. Basic Agriculture is planned to provide this basic information in Agriculture for all listed opportunities in the field of Agriculture.
2. To provide basic training for workers in services sponsored by government or farmer group organizations.
3. To prepare teachers of agriculture for our public secondary schools and to provide basic courses in agriculture for all teachers.
4. To provide basic training for students planning to enter employment in the operation of farm services.
5. To provide technical information in the production of farm products needed by those living on farms and depending on sales of farm products for financial support.

Students majoring in Agriculture may complete the B.S. degree at Western or arrange to transfer to Michigan State University's College of Agriculture at the end of the sophomore year without loss of credit. Students planning to transfer should follow the program outlined on page 82 of this publication.

A Minor in Agriculture shall consist of the following:

Animal Industry—110, 111	8 S.H.
Agronomy—220, 221	8 S.H.
Agriculture Shop—242, 243	2 or 3 S.H.

A major shall consist of 30 semester hours in the field of Agriculture including the courses outlined above for the Minor. These courses will be

selected with the approval of the advisor. Students who complete either a Major or Minor and who qualify for the secondary certificate may teach basic agriculture in Michigan Schools.

**100 Basic Agriculture** 3 hrs. Fall, Spring

Includes the fundamental purposes underlying the reasons for Agriculture in our National economy. Consideration is given to the necessary parts, as income, costs of operation, family support, part-time incomes, investments, land descriptions, proper uses and management. Open to all students and presents the opportunity to learn the sources and importance of agricultural products.

**110 Animal Industry** 4 hrs. Fall

A study of Animal Husbandry, Dairying and Poultry Husbandry. The genetic developments of breeds, positions in farm organization, disease and management problems.

**111 Animal Industry** 4 hrs. Spring

A continuation of 110.

**220 Agronomy** 4 hrs. Fall

This course includes subject materials common for all farm-grown products, their relations to soil conditions, climate and other problems in connection with successful and profitable production.

**221 Agronomy** 4 hrs. Spring

A continuation of 220.

**222 Horticulture** 3 hrs. Spring

Organized to present more fully the opportunities for financing a farm family, using horticultural products as the sources of income. Handicaps, specific problems, marketing and approved practices are studied.

**240 Farm Operations** 1 hr. Fall, Spring

This course provides actual farm operation experiences for students to learn the every-day operations of a farm, which are required of typical farm operators. The University Farm provides these facilities. Special schedules will be arranged to meet each student's particular situation.

**242 Agricultural Shop** 2 or 3 hrs. Fall

This course is planned to familiarize students who expects to teach agriculture with basic tool operations while actually performing common jobs on farm and home grounds.

**243 Agricultural Shop** 2 or 3 hrs. Spring

A continuation of 242. A study of electrical and gas power uses on a farm; also, work in plumbing and machine operation and repair.

**310 Feeding and Animal Nutrition** 3 hrs. Fall

Recent advances in feeding discoveries, new systems and economy practices will be studied. This material will be more extensive and detailed study than was possible in the previous courses in animal feeding.

**320 Soils and Fertilizers** 3 hrs. Spring

It is planned to provide basic information in the field of soil origin, composition, classification, fertility requirements and production management, including testing for soil deficiencies and recommended correction practices.

**322 Landscape Gardening** 3 hrs. Spring

The great increase in home building in both rural and urban areas has made it advisable to offer more specific information in home grounds planting objectives and systems of home site beautification. Opportunity to become acquainted with nursery offerings in trees, shrubs and perennials is included.

**324 Land Use and Soil Conservation** 3 hrs. Fall

This course is aimed at establishing an understanding of the movement promoting better use of the various types of land, and the recommended practices for conserving the productivities of these lands.

**330 Farm Management** 3 hrs. Spring

This part of farm organization has been divided from the Farm Crops course in order to examine more fully the records of the University Farm enterprises that are now part of a farm income.

**332 Farm Markets and Financing** 3 hrs. Fall

This course will deal with more specific organized marketing facilities for farm products, using the existing facilities in Southwest Michigan, covering grains, fruits, livestock and vegetable markets. However farming enterprises are financed and their relations to local sources of credit is included.

**334 Organization in Agriculture** 1 hr. Spring

This is a specialized course in which the wide variety of farm organizations are studied so that the purpose, personnel, and influence of the organizations can be better observed.

**430 Agriculture in Michigan** 2 hrs. Spring

This course includes a survey of Michigan agriculture production, the areas, volume and types of production and the marketing systems in operation. The place of Michigan agriculture in national and international production is included. There will also be a survey of the different types of education in Agriculture at the various grade levels in Michigan.

## DISTRIBUTIVE EDUCATION

Adrian Trimpe, Head      Wendall B. Fidler      Raymond A. Dannenberg

The department provides a variety of educational programs and services for individuals who are interested in the field of distribution in schools and business.

### Terminal

The department has two work-study programs, one in Petroleum Distribution and the other in Super Market Distribution. These programs are jointly sponsored with the industries.

### Degree

The department also provides a degree program in Cooperative Occupational Education for those individuals interested in preparing as a Coordinator and/or Related Subjects Teacher for Cooperative Occupational Education programs in the secondary schools. The students in petroleum and food programs may complete a four-year program and graduate with a Bachelor of Science degree.

### Services

The department provides secondary schools having cooperative occupational programs with consultative services and has available related instructional materials for classroom use.

The department also assists schools and businesses in planning and conducting Adult Education Programs, Workshops, Conferences and Institutes.

## COURSE DESCRIPTIONS

### 102 Coordinated Industry Practices 2 hrs. Fall, Spring

The student will be employed as a trainee in the industry for ten weeks under the supervision of the university and the participating company. Written assignments will be required of each student.

### 103 Coordinated Industry Practices 2 hrs. Fall, Spring

Consists of ten weeks of employment in a particular industry as a paid employee. A comprehensive report of employment experiences must be made following the completion of the work period.

### 108 Coordinated Industry Practices 2 hrs. Summer

A continuation of 103, but the student will be assigned to a different type of work experience.

### 109 Plant Survey 2 hrs. Post Summer Session

Inspection trips are made to representative businesses and industrial establishments to observe such functions as production, transportation, storage, research and marketing. Company representatives will lecture to the class on the phases listed. Written reports are to be made on each visit.

**202 Coordinated Marketing Practices 2 hrs. Fall Spring**

Consists of ten weeks of employment in the marketing or sales departments of business or industrial establishment. Comprehensive report must be made upon completion of the work period.

**203 Coordinated Marketing Practices 2 hrs. Fall Spring**

A continuation of 202. The student is assigned to a different job experience. Report of work will be required.

**FOOD—SUPER MARKET****130 The Super Market Industry 3 hrs. Fall, Summer**

An introductory course for those entering the field of super market distribution. Basic principles and practices of the program will be considered. A study of the super market, its history, evolution, and structure with emphasis on the growing importance of the store unit will be analyzed.

**132 Super Market Merchandising 3 hrs. Spring, Summer**

A course designed to acquaint the student with the various merchandising techniques peculiar to the super market. Receiving emphasis will be buying, display, promotion, turnover, pricing for profit, and increasing departmental sales. The overall objective will be to develop a "merchandising character" in the students. Resource people from the industry will be utilized to support classroom activities.

**231 Super Market Supervision 3 hrs. Fall**

A course designed for providing techniques in supervising and developing people in the super market. Attention will be directed toward organization principles, labor relations, understanding people, communication, coaching, and building a store team. Leadership concepts so necessary in the super market will be stressed. Periodic lectures from industry resource people will support classroom instruction.

**PETROLEUM****120 Introduction to the Petroleum Industry 3 hrs. Fall, Summer**

A basic course in the study of the petroleum industry dealing with its history, exploration, drilling, production, refining, distribution and general economics of the industry. The course also includes the orientation necessary for the student to understand the cooperative work program and the student's responsibility to such a program.

**121 Petroleum Products Application 2 hrs. Spring**

Course deals with the various uses of the many categories of petroleum products as they are applied to the manufacturing, agriculture, transportation, and other industries, as well as for the individual home owner.

**123 Selling Petroleum Products****3 hrs. Spring**

The principles of selling as applied to the petroleum industry. Class will be conducted on a laboratory basis with students planning sales campaigns based on selling petroleum products and associated TBA products at both wholesale and retail levels.

**220 Petroleum Distribution and Handling Techniques 2 hrs. Fall, Spring**

This course deals with crude oil and such things as its transportation, refining, product distribution, costs and methods of safe handling. It also includes marketing channels used by integrated petroleum companies. The nature and significance of markets including market research are also stressed along with the balance between supply and demand.

**227 Petroleum Distribution Finance****2 hrs. Fall, Summer**

The financial structure of petroleum retail outlets as it relates to proper capital investment, securing capital, taxes, interest, depreciation, and insurance. It also deals with the principles of retail credit and collections and retail installment selling.

**COOPERATIVE OCCUPATIONAL****570 Organization and Operation of Distributive Education 2 hrs. Fall**

Deals with the organization and operation of distributive education in relation to the total educational program. It is concerned with preparatory, cooperative, and adult programs. Consideration is given to advisory committees and local, state and federal relationships.

**572 Teaching Techniques in Cooperative Education****2 hrs. Fall**

This course deals with the methods and techniques used in teaching the related subjects to students on cooperative work-study programs. Special emphasis will be given to group and individual methods of instruction.

**573 Coordination Techniques in Cooperative Education****2 hrs. Spring, Summer**

This is a study of duties and responsibilities of the coordinator. The organization and establishment of training programs, supervision of trainees on the job, development of individual training programs, establishing working relationships between the school business, and home; and participation in extra-curricular activities in the community. Especially adapted to prospective coordinators.

**HOME ECONOMICS**

Eunice E. Herald, Head  
Rachel Acree  
Alice Kavanaugh

Gladys Rowe  
Marjorie Savage  
Opal Stamm

Betty Taylor  
Reva Volle

Western Michigan University prepares students to qualify as teachers of vocational Home Economics in Michigan under the provisions of the State plan for vocational education. Courses are planned in the Department for a

major and a minor in home economics. Provision is also made for meeting the requirements for a vocational certificate in Michigan. Only persons holding this certificate can teach in the reimbursed homemaking departments in Michigan public schools.

Home Economics at the undergraduate level has for its primary objectives helping the individual student to achieve a rich and satisfying home, family and community life. It is concerned with the person and group values that are desirable outcomes of successful living. It deals with the social, economic, esthetic, managerial, health, and ethical aspects of family relations, child development, foods, clothing, and housing. Home Economics is an education for personal development, for family and community living, and for several areas of professional specialization.

The Home Economics Department offers four-year programs leading to a B.S. degree for teachers, dietitians, and Home Economics for business personnel as well as a two-year program in Home Economics for those not desiring a degree. The three latter programs are outlined in this publication on pages 64 and 86 respectively. A student who has a major in home economics and meets the requirements of the Department of Education for a certificate may teach home economics only in the non-vocational home economics departments of Michigan.

Home Economics Majors are required to complete Chemistry 104, 105 and Biology 107 as part of the Basic Studies Program. American Government 200, or State and Local Government 204, Sociology 200 and Economics 200 or 430 are required in the Social Science area in addition to Foundations of Western Civilization 100, 101 or Man and Society 102, 103.

Students who plan to teach Home Economics in Michigan schools must complete Home Economics Education 340, 341, and Education Courses 350, 470, 420, 450 in order to be eligible for a provisional certificate.

#### \*Home Economics Major

Textiles 100	
Foods 114	
Effective Living 150	
Elementary Design 161	
Clothing 200, 306	
Costume Design 204	
Nutrition 210	
Meal Planning 214	
Home Furnishings 250	
Home Nursing 252	
Human Growth 254	
Marriage & Family Relationships 354	
Home Management 350, 352	
Housing—Elective	

#### Home Economics With Minor in Foods

3	Select 5-6 additional semester hours from:	
3	Diet and Disease 410	2
2	Advanced Nutrition 510	3
5	Institutional Management 512	3
2	Food Technology 514	2
3	Consumer Buying 516	2
3	Experimental Foods 518	2
2	Demonstration Techniques 520	2

#### Home Economics With Minor in Clothing

	Select 5-6 additional semester hours from:	
2	Advanced Textiles 302	2
5	Tailoring 304	3
2	Clothing 308	2
—	Consumer Buying 516	2
40	Demonstrations Techniques 520	2

\*Ten semester hours from this list may apply toward a minor in foods or clothing.



**Home Economics Education Majors**

Additional Course Work Required	
Special Methods 340, 341	5
Introduction to Teaching 350	3
Education 420, 450, 470	15

**Home Economics in Business**

See curriculum page 67.

The following courses are open to students from other curricula who wish a minor of 15 hours in Home Economics or use course work for elective credit: 100, 116, 150, 152, 200, 204, 212, 250, 252, 340, 341, 350, 354, 424, 516, 550, 554.

**CLOTHING AND TEXTILES****100 Textiles 3 hrs. Fall, Spring**

A basic course. Textiles is taught from the consumer point of view. Some testing of fabrics is required.

**200 Clothing 2 hrs. Fall, Spring**

Gives experience in using commercial patterns and learning elementary construction techniques. Elective non-majors.

**202 Clothing 3 hrs. Fall, Spring**

Consists of making garments to develop a knowledge of construction techniques. Includes problems in pattern alteration. Prerequisite: 100.

**204 Costume Design 2 hrs. Fall**

This course is intended to develop more discriminating judgment in the selection of appropriate clothes for individuals. Prerequisite: Art 161.

**302 Advanced Textiles 2 hrs.**

The study of the composition, construction, finishing, and care of textiles. Prerequisite: One clothing course, 100. Not offered 59-60.

**304 Tailoring 3 hrs. Spring**

This course is planned to give experience in tailoring techniques, with emphasis on the making of coats and suits, Prerequisite: 202 or consent of instructor.

**306 Family Clothing 2 hrs. Fall**

Course is flexible in content to meet the needs of advanced students and those planning to teach. Includes study of clothing budgeting, alteration of garments and construction of a child's garment. Prerequisites: 202, 204.

**308 Clothing 2 hrs. Fall, Spring**

Master pattern is draped in muslin on a dress form padded to the size of the individual. Experience is given in drafting a sleeve and flat pattern making. Study is made of principles and techniques of fitting. Prerequisites: 202, 204, 306 or consent of instructor.

**500 Textile Fiber Clinic****2 hrs.**

A workshop type program. Specialist and visual aids will present the newest information on textiles. To be followed by a study of methods implementing the new learnings.

**FOODS AND NUTRITION****114 Foods****3 hrs. Fall, Spring**

Gives a knowledge of basic principles underlying preparation of food. Laboratory experience in the preparation of all classes of food. Prerequisite or concurrent: Chemistry 104, 105.

**116 Family Foods****2 hrs. Fall, Spring**

Emphasis on foods purchasing, menu planning, preparation and service of meals for the family. An elementary course for non-majors.

**118 Nutrition****2 hrs. Fall**

Principles of good nutrition for the individual, family groups, and community. Laboratory experience is given in the basic principles of cooking. For first semester nurses.

**210 Nutrition****3 hrs. Fall**

A study of the essential nutrients and their function in the human body. Prerequisite: Chemistry 104, 105 and 114.

**212 Everyday Nutrition****2 hrs. Fall, Spring**

This course includes problems related to signs of good and poor nutrition, for growing children and adults. A course for non-majors.

**214 Meal Planning and Food Preservation****2 hrs. Fall, Spring**

Marketing, meal preparation and table service. Emphasis on food preservation.

**312 Quantity Foods****2 or 3 hrs. Spring**

Quantity food preparation in a college residence hall kitchen and the school lunchroom. Prerequisites: 114, 214.

**410 Diet and Disease****2 hrs.**

Study of dietetic treatment of impaired digestive and metabolic condition. Planning of diets and reports of current research. Prerequisites: Organic Chemistry 360, Physiology 217.

**510 Advanced Nutrition****3 hrs. Spring**

Study of recent developments in nutrition through readings and experiments. Prerequisite: 214.

**512 Institutional Management****3 hrs.**

Study of institutional administration, job analysis, labor policies, personal problems, and cost control in different types of food-service institutions. Prerequisites: 214, 312.

**514 Food Technology 2 hrs. Fall**

Food preparation with special emphasis on individual problems related to school food teaching units. Study of commercial food preparation. Prerequisite: 214.

**516 Consumer Buying 2 hrs. Fall**

Study of marketing problems and consumer credit. Students work on individual problems which concern the techniques of buying a specific type of consumer goods. Prerequisite: Consent of Instructor.

**518 Experimental Foods 2 hrs. Spring**

Application of principles affecting food preparation. Development of experimental techniques. Prerequisites: Chemistry 104, 105, 114, 214.

**520 Demonstration Techniques 2 hrs.**

A study of principles and techniques for demonstration in all areas of home economics. Practice will be included. Offered for homemaking teachers, demonstration agents, and home economists in business.

**HOME MANAGEMENT, CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS****150 Effective Living 2 hrs. Fall, Spring**

An orientation course required of all freshmen in home economics. Personal problems in adjustment studied. Planning for marriage and the home of the future included. Freshmen in other departments welcome.

**152 Personality Development 2 hrs. Fall, Spring**

Social usage and personality development are considered. Elective non-majors by Freshmen and Sophomores.

**154 Consumer Problems 3 hrs. Spring**

Analysis is made of consumer problems pertaining to buying specific types of commodities such as food, clothing, shelter, equipment and furnishings for the home, health, and recreation. Some consideration of agencies and laws affecting consumers considered. Non-major elective.

**250 Home Furnishings 2 hrs. Fall, Spring**

Room arrangement, furniture, and furnishings are studied. Models of room arrangement are made. Prerequisite: An art course. Elective.

**252 Home Nursing 2 hrs. Fall, Spring**

The health of the family and simple procedures for the care of patients in the home are stressed. Consideration is given to community resources for the protection and care of health problems relating to home and school. Elective.

*School of Applied Arts and Sciences***254 Human Growth and Development** 3 hrs. Spring

This course involves study of the physical, social, emotional, and intellectual growth and development of children and adolescents.

**350 Home Management** 2 hrs. Fall.

The study of the use of time, energy, money, and resources to achieve family goals. Prerequisite: A course in economics.

**352 Home Management Practice** 3 hrs. Fall, Spring

Students live in family size groups. They learn to manage on two economic levels. Prerequisite: 350.

**354 Marriage and Family Relationships** 2 hrs. Fall, Spring

A study of the contributions and problems of the family in modern society. Preparation for marriage, including consideration of marital and personality adjustments in family living. Prerequisite: Psychology 200 or Sociology 200. Elective.

**550 Family Living in the Schools** 2 hrs. Spring, Summer

Problems of organizing materials in Family Living for the purpose of teaching classes and working with groups in the total school program. Prerequisite: Soc. 200.

**552 The Homemaking Center and Equipment** 2 hrs. Spring

Consideration of fundamentals in planning living space in terms of the family's need with especial emphasis on built-ins and furnishings, fabric and color will be studied. Selected problems to be chosen by the individual. Prerequisite: 250 or consent of instructor.

**554 Housing** 2 hrs. Spring, Summer

A study of economic and social aspects of housing. Single, duplex, and multiple housing problems are considered. Prerequisite: 250 or consent of instructor.

**HOME ECONOMICS EDUCATION****340 Special Methods** 2 hrs. Fall

Course designed to acquaint students with the teaching field in home economics. Includes basic philosophy of home economics education, observations, unit planning, effective teaching materials as a basis for special methods and student teaching.

**341 Special Methods** 3 hrs. Spring

Planning local programs of homemaking education in high school equipment and the organization of homemaking department, developing the home experience programs, and methods of teaching for junior and senior high schools and adult homemaking classes. Prerequisite: 340.

## INDUSTRIAL EDUCATION

John L. Feirer, Head  
John L. Bendix  
Lawrence J. Brink  
Lindsay G. Farnan

Gilbert R. Hutchings  
Waldemar E. Klammer  
Irvin T. Lathrop  
John R. Lindbeck

Charles G. Risher  
William P. Spence  
Theo C. Zimmerman

## INDUSTRIAL EDUCATION COURSES

The Industrial Education Department offers shop and professional courses for four purposes: (a) to educate teachers and supervisors of Industrial Arts who will teach general Industrial Arts in all levels of the public schools; (b) to educate teachers who will qualify to teach trade and industrial subjects in the secondary schools, or community colleges; (c) to educate students who wish a broad background in industrial subjects with the intention of entering business or industry; and (d) to educate students in Printing Management.

**Industrial Arts Teaching**—A student who plans to qualify as an Industrial Arts teacher in both general and unit shops must take a minimum of 45 hours of technical work.

A group minor consists of the following courses: 100, 205, 120, 226, 130, 234, 160, 260, plus the professional course Teaching of Industrial Education. A student may also take a fifteen hour minor in any course sequence such as woods, metals, drawing, electricity, or graphic arts, plus the professional course Teaching of Industrial Education. (See page 68 for curriculum)

**Vocational Industrial Education Teaching**—A major in a trade specialty of 24 semester hours and a minor of 20 semester hours in Industrial Arts will be required. In order to secure the secondary provisional certificate, students will be required to complete the courses required by the school of Education for this certificate. (See page 69 for curriculum)

**Industrial Education General Degree**—Students wishing to secure a broad general industrial background can major in Industrial Education. A total of 45 hours in the shop and drawing areas is required. The exact combination of courses will be determined by the needs of the student. (See page 68 for curriculum)

**Printing Management**—Students must pursue a major sequence of courses in Printing and Graphic Arts and a minor sequence in Business. (See page 79 for curriculum)

## WOODWORK

### 100 Basic Woodworking

2 hrs. Fall, Spring

Survey course that provides experiences in the care, purchase, use of tools, and information about production and consumption of wood products. Wood classification, elementary wood finishing, and the operation of wood lathe, drill press, router, and scroll saw.

**104 Rural Practical Arts** 2 hrs. Fall, Spring

A special course in general shop with emphasis on woodworking activities designed for prospective rural school teachers. This course is limited to students enrolled in the rural life and education department.

**108 O.T. Special Education Shop** 3 hrs. Fall, Spring

A basic course in shop fundamentals, including the use of hand tools, construction design, fastening devices, and finishing. This course is limited to students enrolled in occupational therapy.

**204 Finishing** 3 hrs. Spring

A course in the plans and methods in modern wood finishing. All types of finishing will be studied. Related information on color theory, mixing, and the application of finishes to various surfaces will be included.

**205 Machine Woodwork** 3 hrs. Fall, Spring

An introductory course on the use of machine woodworking equipment. The student will receive experience in setting-up, operating, and caring for the more commonly used machines such as circular saw, jointer, shaper, planer, etc. Parts for selected projects will be machined. Prerequisite: 100.

**304 General Woodwork** 3 hrs. Spring

Additional machine experience including advanced techniques in wood turning. Methods of upholstery including tools, materials, frames, and upholstery procedure.

**306 Advanced Woodworking** 3 hrs. Fall

Covers experiences in house construction and wood pattern making. House construction will cover framing a house. Pattern making will include building up patterns for school shop use. Also, caning will be covered.

**506 Furniture Construction** 3 hrs. Spring

A course covering the design and construction of fine furniture. Each student will be required to design and carry to completion a finished piece of furniture.

**DRAWING****120 Beginning Drafting** 2 hrs. Fall, Spring

A survey course in general drafting providing the student an opportunity to develop basic drafting skills. Many types of drafting are covered including sketching, engineering, architectural, and shop drafting. For Industrial Education and Pre-Engineering students.

**226 Advanced Drafting** 3 hrs. Fall, Spring

A continuation of principles emphasized in Drafting 120. Orthographic projection, dimensioning, pictorial drawing, sections, auxiliary views, architectural drawing, sheet metal drafting, electrical drafting, and drawing reproduction are included.

**227 Freehand Drawing****2 hrs. Fall**

A course designed to improve freehand sketching and rendering skills. Involves principles of sketching, shading, shadows, and review of drawing fundamentals.

**324 Architecture****2 hrs. Fall, Spring**

Architectural details, plans, elevations, rendering, tracing, and blue-printing, and estimating of simple one- and two-story buildings. Outside reading for architectural appreciation.

**325 Architecture****2 hrs. Fall, Spring**

Plans, elevations, details, mechanical perspective, rendering, tracing, and prints of a modern house. Emphasis placed on styles of architecture and architectural appreciation.

**326 Mechanical Drawing****2 hrs. Fall, Spring**

More advanced problems in mechanical drawing, detailing, design, theory application, ranging from simple geometrical problems through surface development, cams, gears, and some architectural drawing. Special emphasis on review of the fundamentals of drawing and discussion problems.

**METAL WORK****130 General Metals****3 hrs. Fall, Spring**

An introductory course to the hand tool processes and the related information in the areas of wrought iron, cast metals, sheet metal, and art metals.

**234 Machine Shop****3 hrs. Fall, Spring**

A course in the fundamentals of machine tool operation, involving turning, milling, shaping, and grinding practices in machining parts of selected projects to be assembled at the bench.

**235 Machine Shop****3 hrs. Spring**

An advanced course dealing with foundry practices and with machine tool operation in the casting, the finish machining, and the fabrication of machine parts. Prerequisite: General Metals 130 and Machine Shop 234A.

**334 Sheetmetal****2 hrs. Spring**

An introduction to the application of hand and machine processes. Cutting, forming, seaming, burring, crimping, notching, and wiring as applied to the making of sheetmetal projects.

**336 Metal Fabrication****2 hrs. Fall**

A course in gas and arc welding for beginners. Safety precaution, care and operation of welding equipment, selection of welding rod, methods of welding will be stressed.

**338 Advanced Metals****3 hrs. Spring**

Hand tool and machine processes in fabricating projects that provide a variety of metal working experiences suited to junior and senior high school industrial arts classes. Includes foundry practice, metal spinning, electroplating, and welding processes.

**PRINTING AND GRAPHIC ARTS****150 Survey of Graphic Arts****2 hrs. Fall, Spring**

An introductory course in the field of graphic arts in which the student will have an opportunity to become familiar with the large area of graphic arts. Work is undertaken in hand composition, presswork, bindery, block cutting, mimeographing, silk screen, etc.

**152 Presswork****2 hrs. Fall, Spring**

This is a beginning course in presswork, which includes simple lockup, make-ready and feeding.

**154 Graphic Arts****2 hrs. Spring**

A continuation of 150. A thorough study of all graphic arts processes used in industry is undertaken. Letterpress, offset, flexographic and intaglio receive special emphasis. Advantages and best uses as well as disadvantages and limitations are considered for each of the methods of printing.

**156 OT Printing****3 hrs. Fall, Spring**

This course is intended to acquaint students with the various tools and equipment of the print shop, and to acquaint them with fundamentals of planning type composition. Limited to students enrolled in the Occupational Therapy department.

**250 Typography I****3 hrs. Fall**

Work in the arrangement and use of various type faces in typical printed jobs and in advertisements.

**251 Typography II****3 hrs. Spring**

A continuation of 250 with the emphasis on the more complicated kinds of composition.

**254 Linotype Composition****3 hrs. Fall**

This course deals primarily with the operation of the linotype keyboard. Straight composition is emphasized. Consult instructor for laboratory schedule before enrolling.

**255 Linotype Composition****3 hrs. Spring**

This course considers the problems of job, advertisement, and newspaper composition. Consult instructor for laboratory schedule before enrolling.

**350 Imposition and Lockup****2 hrs. Fall**

The imposition and lockup of type forms for various kinds of presses and from the simple to large multiple page forms is studied in this course.



**352 Layout and Design****3 hrs. Fall**

Students will undertake the complete layout, design, and composition of such jobs as tickets, name cards, letterheads, programs, newspaper advertisements, newspaper pages, and covers. Principles of balance, proportion, harmony, art, color, copy-fitting, etc., as applied to such jobs will be studied.

**356 Printing Machinery Maintenance****2 hrs. Fall**

This course is designed to acquaint the student with the problems of care and maintenance of printing machinery including the linotype. Simple adjustments are made on the various machines.

**357 Printing Machinery Maintenance****2 hrs. Spring**

This course gives the student practical experience in caring for machinery in actual operation.

**450 Advanced Presswork****2 hrs. Fall**

Practical presswork and make-ready of various kinds of type forms for both cylinder and jobbers is undertaken. Offset press problems and practice are also studied.

**452 Estimating<sup>®</sup>****2 hrs. Fall**

A study of the methods used in estimating the price of printed matter before manufacture and in the final pricing of that matter after production.

**453 Production Control****2 hrs. Spring**

A study of various systems used in the printing industry for planning and controlling the flow of work through the plant in order to maintain equalized work loads and meet delivery schedules.

**455 Bindery Operations****2 hrs. Spring**

Bindery and finishing operations are studied. Work in book-binding, folding machines, stitching, plastic binding, punching, perforating, etc. is taken up.

**ELECTRICAL****160 Introductory Electricity****2 hrs. Fall, Spring**

A survey course in the field of electricity. Special attention will be given to elementary wiring, construction of school shop electrical projects, and a general introduction into the field of electronics and electrical appliances.

**260 Advanced Electricity****3 hrs. Fall, Spring**

A study of the principles of electricity and their practical application. Work experiences in electric motors, transformers, heating devices and batteries are supplemented by a usable technical background. Techniques and practice of electric wiring are included. Prerequisite: Shop Mathematics.

**GENERAL SHOP****170 Introduction to Industrial Education 2 hrs. Fall, Spring**

A course designed to familiarize industrial education teachers with the basic philosophy of vocational education and its functions in an education program. The many aspects of vocational education are covered including historical background, social implications, Federal and State legislation, teacher qualifications, certificate requirements and special methods and applications.

**174 Industrial Arts for Elementary Teachers 3 hrs. Fall, Spring**

This course is planned for prospective elementary school teachers and will include a study of Industrial Arts for grades one through six. Construction techniques in the fields of woods, metals, leather, and plastics will be included. An understanding of our industrial life in our modern society will be emphasized. Special Education students may take this course for four semester hours of credit.

**177 O.T. General Shop 3 hrs. Fall, Spring**

A course designed exclusively for individuals training for occupational therapy. This course will cover the fundamentals of drawing, sketching, plastics, cold metals, copper work, and elementary electricity.

**270 Art Metal 2 hrs. Spring**

An introductory course in the study of art metal. Methods of layout, cutting, forming, and assembly will be stressed. Practical application in the form of finished projects of an artistic nature will be emphasized.

**271 Jewelry 2 hrs. Spring**

A beginning course dealing with the design and construction of items of jewelry and enameling.

**272 Related Arts and Crafts 3 hrs. Fall, Spring**

A general course in arts and crafts including work in thin metals, plastics, leather, elementary wood, and other related craft activities. Extension only.

**273 Related Arts and Crafts 3 hrs. (Extension only)**

Advanced work in arts and crafts including advanced art metal, plastics, and other crafts not previously included.

**276 Industrial Arts Design 2 hrs. Fall, Spring**

A laboratory course dealing with the elements and principles of good design as applied to industrial arts projects. Course emphasis is upon developing design techniques, recording design ideas, and constructing project models.

**278 Leather, Plastics, and Archery 2 hrs. Spring**

A course for prospective Industrial Arts teachers in the major crafts of leather, plastics, and archery. Students will have an opportunity to construct projects and do activities suitable to leisure time work.

**370 General Shop****3 hrs.**

A comprehensive course covering a variety of media used in the industrial arts field with introductory laboratory experience. This course is planned for students who will teach in a general shop organization.

**372 Procedures and Methods in Industry****2 hrs. Fall, Spring**

A study of the methods of manufacture and distribution of industrial products. Students will visit industrial plants and write reports on the application of technology to the school shop.

**374 Building Construction****2 hrs. Fall**

Experience in cement work, metal work, electrical work, glazing and other areas related to their application in home building. This work is to help meet the requirements for certification as a farm shop teacher.

**375 Building Construction****2 hrs. Spring**

A continuation of 374 with the addition of special problems related to home building and construction.

**570 Arts and Crafts Techniques****2 hrs.**

Advanced laboratory experiences in the fields of internal plastic carving, leather work, model work, archery, photography, and related crafts in conjunction with a study of current technical literature in these areas. Written reports will be required. Course content will be adapted to individual needs.

**572 Arts and Crafts for Teachers.****2 hrs. Summer, Spring**

This course will cover craft techniques in the areas of art metal, jewelry, leather, plastics, wood crafts and other related experiences. Teaching procedures, methods and materials will be emphasized.

**POWER AND TRANSPORTATION****180 Power Mechanics****2 hrs.**

A study of basic power machines with principal emphasis on the two and four cycle small engines used in power mowers, outboard motors, etc.

**284 Transportation****3 hrs. Fall**

A survey course dealing with the design, use, and function of all types of power-driven equipment. The emphasis in this course will be placed on power mowers, outboard motors, and automobiles.

**285 Transportation****3 hrs. Spring**

Advanced work in automobile maintenance and servicing. Special emphasis will be given to the study of testing equipment used in auto mechanics.

**582 Aviation for Classroom Teachers****2 hrs. Spring**

A course dealing with the educational, social, economical, and political implications of aviation in the modern world. A study will be made of basic aviation materials and activities that are appropriate for different grade levels. Consideration will be given to aviation literature and visual aids suitable for youngsters. Opportunities will be provided for participation in a variety of aviation experiences. This course is open to elementary and secondary education students.

**COORDINATED STUDY****290 Coordinated Industry****3 hrs. Fall, Spring**

This course is limited to students who are enrolled in the Vocational-Industrial curriculum. It consists of supervised work experience in industry to enable students to meet certification requirements for a Vocational Teaching Certificate.

**291 Coordinated Industry****3 hrs. Fall, Spring**

Continuation of 290.

**390 Coordinated Industry****3 hrs. Fall, Spring**

Continuation of 291.

**391 Coordinated Industry****3 hrs. Fall, Spring**

Continuation of 390.

**PROFESSIONAL COURSES IN INDUSTRIAL EDUCATION****345 Plan and Organization of a School Shop****3 hrs. Fall, Spring**

This is a course to help teachers plan and organize the school shop. Topics concerned include physical needs of the subject, selection of activities, shop layout, purchasing equipment, establishing a supply routine, planning personnel organization, and shop management.

**344 Teaching of Industrial Education****3 hrs. Fall, Spring**

This course deals with the problems in teaching industrial subjects, the techniques employed in the analysis of instructional units, construction of tests and rating scales, and problems dealing with administration and work. The principal methods of instruction used in industrial subjects will be emphasized.

**540 Industrial Arts for the Elementary School****2 hrs. Fall**

Deals with the problems of organizing and teaching Industrial Arts for the elementary grades. Course materials, techniques, and materials in the industrial and craft areas will be stressed.

**542 Course Planning and Construction****2 hrs. Spring**

Principles and techniques of selecting and analyzing suitable teaching activities and arranging such material into a functional instructional order.

Instructional units prepared will be based on an analysis of a trade, occupation or activity. Opportunity will be provided to prepare a detailed course of study.

**544 Measurement in Industrial Education 2 hrs. Fall**

A study of the technique for preparing and using correctly written and practical tests. Attention will be given to interpretation of test results and grading student achievement.

**548 History and Philosophy of Industrial Education 2 hrs.**

Industrial education in America, with special attention to European influences, experiments, industrial developments and theories. Emphasizes developments leading to modern practices both in industrial arts and in vocational-industrial education.

## INDUSTRIAL TECHNOLOGY

Joseph W. Giachino, Head	Dale King	Clarence VanDeventer
Henry J. Beukema	Andrew C. Luff	William Weeks
Donald Black	Don W. Nantz	William Wichers
Elmer Brune	Robert Ring	Glade Wilcox
Herbert E. Ellinger	William Schreiber	Lester Zinser
Roy Groulx	Frank Scott	

The Department of Industrial Technology is concerned primarily with preparing personnel for industry. It offers the following types of programs:

### Four Year Curricula—B.S. Degree

1. Industrial Engineering
2. Engineering Technology
3. Industrial Supervision
4. Industrial Distribution
5. Transportation
  - Automotive
  - Aviation

### Two Year Curricula—Certificate

1. Aircraft and Aircraft Engine Technology
2. Automotive Technology
3. Drafting and Design Technology
4. Industrial Electronics Technology
5. Machine Tool Technology
6. Radio and Television Technology
7. Refrigeration and Air Conditioning Technology
8. Foundry and Metallurgy Technology

A major can be earned only by being enrolled in one of the curricula offered by the department.

A minor may be secured upon the approval of the departmental advisor and by completing 15 to 20 semester hours of work, depending upon the area of specialization.

After completing a two-year program, a student may transfer into a degree technical program upon the recommendation of the counselor.

## **AUTOMOTIVE MAINTENANCE**

### **124 Automotive Engines and Accessories 4 hrs. Fall, Spring**

A study of the construction features and operation of all component parts of modern automobiles.

### **125 Automotive Chassis and Running Gear 4 hrs. Fall, Spring**

Practical work in servicing and repairing of springs, steering, gears, brakes, and drive lines with special emphasis on automatic transmissions, power steering, power brakes, and wheel alignment.

### **224 Automotive Analysis. 4 hrs. Fall, Spring**

The study of complete engine analysis and adjustment using motor analyzers, distributor testers, generator-regulator testers, and chassis dynamometer.

### **225 Automotive Engine Overhaul 4 hrs. Fall, Spring**

Practical work in disassembly, cleaning, inspection, repair, and assembly of the complete engine with special emphasis upon overhaul equipment and processes.

### **422 Auto Service Management 2 hrs. Spring**

A study of the principles involved in managing auto repair shops and procedures in maintaining proper customer service relations.

### **524 Automotive Performance Problems 2 hrs.**

This course deals with the correct usage of testing equipment for locating and correcting automotive engine malfunctions. It is designed particularly for teachers of auto mechanics.

## **AVIATION**

### **110 Airframes 4 hrs. Fall, Spring**

A course designed to provide essential information and teach specialized skills pertinent to the maintenance of fabric and metal covered aircraft, plastic components, wood components, and electrical systems.

### **111 Aircraft Welding 2 hrs. Fall, Spring**

A course designed to develop welding skills and knowledge pertinent to aircraft manufacture, maintenance and repair. Laboratory experiences will be provided in fabricating various aircraft structural components.

**112 Power Plants** 4 hrs. Fall, Spring

This course is designed to teach skills and basic theory involved in aircraft engines. It provides for practical experience in working with all components of reciprocating engines such as electrical systems, ignition systems, carburetion, lubrication, propellers, etc. Theory and operation of jet engines is included in this course.

**116 Introduction to Aviation** 3 hrs. Fall, Spring

An introductory course covering basic principles and terminology of airframes, power plants, jet engines, theory of flight, and Civil aeronautics publications.

**117 Basic Ground School** 2 hrs. Fall, Spring, Summer

Ground school theory for the flight student which will enable him to meet the CAA Private Pilot Rating examination.

**118 Pilot Training** 2 hrs. Fall, Spring, Summer

This unit provides a minimum of 40 hours flight instruction and ground school theory to qualify a student for a private pilot's license.

**119 Commercial Pilot Program** 4 hrs. Fall, Spring, Summer

This unit is planned for students who have a private pilot's license and a minimum of 150 hours of flying time. The ground school aspect of this unit is intensive and will prepare the student for his CAA written examination.

**210 Airframes** 4 hrs. Fall, Spring

This course deals with the repair and servicing of hydraulic units, brakes, instruments, radio, and all aircraft alteration and maintenance work as prescribed by CAA requirements, including periodic inspections.

**212 Powerplants** 4 hrs. Fall, Spring

A course designed to provide practical experience and theory in overhauling, servicing, inspection, installation, and testing aircraft powerplants. This course includes all components of an aircraft engine including propellers and some experience in jet engines.

**218 Aircraft Servicing** 4 hrs. Summer

The primary objective of this course is to provide the student with an opportunity to conduct periodic inspections, routine and preventive maintenance, minor repairs on flying aircraft and a complete review of all regulations and CAA publications. The student will also have the opportunity to learn servicing of aircraft and the management of a small airport.

**310 Passenger and Freight Traffic** 3 hrs. Fall

Students will be given an opportunity to study the problems connected with the generation and handling of both passenger and freight traffic as primary concerns of the motor bus and motor truck lines and the scheduled airline services.

**312 Transportation Problems****2 hrs. Fall**

This course is intended to give the student information concerning the regulatory agencies of the airline, motor bus, and motor truck industries; and also a study of current regulations, scheduling and loading problems in these industries.

**314 Aeronautical Navigation****2 hrs. Fall**

A course in which the student may learn the fundamentals of aircraft navigation and the use of the navigational computer.

**316 Aeronautical Meteorology****3 hrs. Spring**

A study of the weather elements, such as clouds, cloud formations, pressure systems, fronts, reading weather maps, teletype, and interpretation of forecasts for aerial navigation.

**410 Airline Operation****2 hrs. Spring**

The operational phase of air transportation in which the student can study dispatching, equipment specification determination, cost finding, and similar operational problems.

**414 Transportation Terminals****3 hrs. Spring**

The student will have an opportunity to become acquainted with problems of design, operation and management of air, motor-bus and motor-truck terminals.

**DRAFTING****230 Engineering Drawing****3 hrs. Fall, Spring**

The essentials of drafting—lettering, instrument usage, applied geometry, freehand sketching, orthographic projections, auxiliaries and sections, dimensioning practice, detail and assembly drawing, conventions and standard drafting practices. Pictorial drawing and presentation of engineering data through the media of charts and graphs is also included. Reproductions of drawings are made on modern whiteprinting equipment.

**231 Descriptive Geometry****3 hrs. Fall, Spring**

The development of clear and accurate space concepts through the medium of a comprehensive study of points, lines, planes and solids in all possible relative positions, measurements of distance and angles, intersections, true sizes and shapes of plane areas and development of curved surfaces. Emphasis is placed on analytical procedures and the importance of accuracy and systematic notation in graphical solutions.

**232 Technical Drawing****2 hrs. Fall, Spring**

A condensed course covering the basic principles and techniques of engineering drafting and its relationship to the industrial manufacturing processes.



**234 Tool and Die Design** 2 hrs. Spring

This course includes practical work assignments in the layout and design of jigs, fixtures, dies and other production tools related to the machine tool field.

**330 Machine Drawing and Design** 3 hrs. Fall, Spring

This course is an intensive treatment of the elements of Machine design. Specific problems are undertaken in the design of gears, cams, linkages, springs, etc., as well as the fabrication of other machine components. Emphasis is placed on the use of standard and purchased parts in manufacturers' and suppliers' catalogs. Standard engineering department practices are followed throughout. The use and maintenance of modern print-making equipment is also included.

**331 Industrial Design** 3 hrs. Fall

A course in design and development of manufactured products through a study of basic elements of industrial design. Models, mock-ups, prototypes, etc., will be constructed of students designs.

**332 Architectural and Structural Drafting** 3 hrs. Spring

This course includes architectural and structural detailing, piping, electrical and plant layout drafting. Emphasis will be given to the preparation of construction and installation drawings for industrial structures.

**430 Drafting for Production** 3 hrs. Fall, Spring

A study of drafting for industrial production and the design and development of the necessary tooling for mass-produced products. Illustrative techniques involving drawings for catalogs, sales and service manuals, etc., will also be included.

**431 Drafting Department Practices** 2 hrs. Fall

A detailed study of drafting department procedures and practices, including drafting department organizations, records systems, standards, technical library, reproduction and duplication, and relationship of the drafting department to other phases of manufacturing.

**ELECTRONICS****240 Technical Electricity** 3 hrs. Fall, Spring

An introductory course covering electrical theory and its application in measurement, transmission and control of loads.

**241 Basic Electronics** 3 hrs. Fall, Spring

This course is planned to provide the student with an over-view of electronic theory, covering the principles of vacuum tubes, gas tubes, and semi-conductors and their application to communication, industry, measurement and physiological study. Prerequisite 240.

**342 Electronic Devices 3 hrs. Fall, Spring**

A course designed to provide a comprehensive background in electronic theory and electronic devices for advanced study in such fields as electronic control, communication and measurement. Prerequisite 241.

**345 Industrial Electronics 3 hrs. Spring**

A study of the design and maintenance of electronic assemblies applicable to industrial control and automation. Prerequisite 342.

**346 Industrial Electricity 3 hrs. Fall**

Covers the application of electrical power to industrial usage and operating characteristics of electrical machines and controls. Prerequisite 240.

**348 Applied Measurements 3 hrs. Fall**

An introductory course in electrical and electronic measurements. It provides the student with essential theoretical and practical experience in the measurements of electrical and electronic quantities. Prerequisite 241.

**443 Communication Electronics 3 hrs. Spring**

A course dealing with the study of electronics as applied to such fields as radio, television, radar, and other transmission devices. Prerequisite 342.

**449 Instrumentation 3 hrs. Spring**

This course covers electrical and electronic instrumentation including sensing, recording, indicating, and control devices. The measurement of non-electrical phenomena and their application to instrumentation for the automation of process control and flow production is stressed. Prerequisite 348.

**FOUNDRY TECHNOLOGY****155 Basic Metallurgy 3 hrs. Fall, Spring**

The student is given the opportunity to become acquainted with the properties of metals, working of metals into various forms and shapes, thermal treatments, phase diagrams, and methods of securing desirable physical properties.

**254 Molding and Coremaking. 3 hrs. Fall**

A course of study designed to give the student laboratory experience and a knowledge of the processes, methods, tools, machines and materials used in molding and coremaking applications. The course includes the testing of materials used in molding and coremaking by the gray iron, steel, malleable iron, and non-ferrous founding industries.

**350 Metallography 2 hrs. Spring**

A study of metallurgical laboratory methods, test procedures, preparation of specimens for analysis and study of microstructure and its relationship to mechanical properties.

**354 Foundry Production Techniques****3 hrs. Spring**

A study of the principles, fundamentals, mechanics and methods used by foundries in the manufacture of castings. Emphasis is placed on casting design, metal flow and solidification, patterns, plant layout and the tools and equipment used in the successive stages of foundry operations.

**355 Foundry Control Procedures****3 hrs. Fall**

This course includes laboratory activities and study of the inspection methods and the control measures used to produce quality castings. Inspection will include the visual, mechanical, physical, magnetic, radiographic, penetrant and sonic methods. Emphasis will be placed on the control of raw materials to the end product.

**356 Advanced Metallurgy****3 hrs. Spring**

An advanced study of the effects of alloying elements upon the microstructure and mechanical properties of metals, principles of alloying and melting, equilibrium and non-equilibrium phase changes, deformation of metals, surface hardening, and powder metallurgy.

**MACHINE - TOOL TECHNOLOGY****152 Industrial Machine Shop****3 hrs. Fall, Spring**

This course in machine shop practice is designed to analyze and give laboratory experiences in layout procedures, common measuring techniques, standard inspection methods, and machine tool processes. Machining operations will involve the use of the following pieces of equipment: lathe, horizontal milling machine, vertical milling machine, surface grinder, cylindrical grinder, pedestal grinder, tool grinder, shaper, sensitive drill press, radial drill press, cut off saw, and contour saw.

**252 Manufacturing Processes****3 hrs. Fall, Spring**

Practical problems are assigned using production equipment in the machining and finishing of various metals. Cutting force, tool life, power, chip formation, cutting fluids, tool shapes, speeds, and feeds are analyzed. Precision layout procedures, precision measuring techniques, and precision inspection methods are correlated with production operations on the turret lathe, automatic screw machine, chucking grinder, boring mill, and lapping machine.

**258 Industrial Welding****2 hrs. Fall, Spring**

This course involves study of the techniques and processes used to fabricate metals by welding. Laboratory experiences will include oxy-acetylene, electric-arc and helium-arc equipment.

**352 Pressworking of Metals****3 hrs. Fall**

Standard pressworking methods are analyzed in the construction and use of dies for blanking, shaving, bending, forming, and stamping metals in standard power presses and brakes.

**353 Mechanical Inspection 2 hrs. Spring**

Standard inspection methods and instruments used in the metal manufacturing industry are analyzed. The uses and limitations of these instruments and methods are stressed, as well as their care and installation to obtain valid and reliable measurements.

**453 Production Processing 2 hrs. Spring**

Stresses the relationship of the product to the processes necessary in the selection and conversion of materials into manufactured products. Analysis will be used to determine the methods and operational production sequences.

**456 Production Tooling 3 hrs. Fall**

This course is intended to acquaint the student with the fabrication and use of jigs, fixtures, and tools utilized in tooling standard tool room and production machines, and to develop in the student proficiency in practices which meet prevailing industrial standards. Process and tooling data sheets will be presented.

**458 Tool Engineering 3 hrs. Spring**

Deals with the solution of problems that arise in the planning and tooling for production. Problems of economy, design, estimating, processing, and planning will be developed and analyzed.

**RADIO - T.V. TECHNOLOGY****142 Introductory Radio 3 hrs. Fall, Spring**

The study of radio electronics, vacuum tubes, power supplies, audio and amplifiers, resonant circuits, superheterodyne receivers, and transmitter principles.

**143 Introductory Television 3 hrs. Fall, Spring**

Television fundamentals with emphasis on television testing and servicing equipment.

**242 Advanced Television 3 hrs. Fall, Spring**

A continuation of course 143 with greater emphasis on television circuitry and theory. Principles of closed circuit television operation is also included.

**243 Color Television 3 hrs. Fall, Spring**

A basic course covering color television fundamentals and practices with practical work in setting up and servicing color television receivers.

**REFRIGERATION, AIR CONDITIONING, HEATING TECHNOLOGY****160 Heat Transfer 3 hrs. Fall, Spring**

This course is intended to acquaint the student with the various applications of the principle of heat transfer as it is applied in modern manufacturing processes and methods. Special emphasis is given to applications of heat transfer principles in the fields of refrigeration, air conditioning and heating.

**260 Refrigeration****3 hrs. Spring**

This course covers theory and application of refrigerants, refrigeration units of standard design, construction, installation techniques, approved service operations, testings and factory-recommended replacement procedures.

**262 Ventilating Systems****2 hrs. Spring**

This course consists of laboratory experiences and theory of air distribution as connected with practices in duct layout, fabrication, and installation of all types of air distribution systems.

**360 Air Conditioning—Cooling****3 hrs. Fall**

Theory and application of all the elements governing the conditioning of air for healthful living, air purification, humidity control, temperature control, filtration and servicing of various types of air conditioning systems.

**361 Air Conditioning—Heating****3 hrs. Spring**

Theory and application of the elements controlling the heating phase of air conditioning. The heat pump, radiant, solar, electric and split systems are analyzed and their efficiency compared.

**460 Air Conditioning Estimating and Layout****3 hrs. Spring**

A study of cost estimating, designing, and layout of various types of air conditioning and heating systems, including heat loss and heat gain calculations.

**RELATED ENGINEERING AND TECHNICAL****170 Industrial Processes****3 hrs. Fall, Spring**

A course of study designed to give the student laboratory experiences and a knowledge of the tools, machines, and processes used to join, machine, shape, finish, fabricate, and form materials. The course includes the processes of joining materials by oxy-acetylene welding, spot welding, arc-welding, helium-arc welding, soldering, seaming, crimping, bonding, sweating, and fasteners. Machining processes include turning, shaping, milling, grinding, lapping, drilling, reaming, boring, and threading with standard and production manufacturing tools. The processes included in the forming of materials are heating blanking, bending, and stamping.

**171 Industrial Processes****3 hrs. Fall, Spring**

This course consists of laboratory experiences and the study of materials. Their structural properties, how their characteristics can be changed, equilibriums diagrammed, methods of manufacture, heat treatment, and micro-structure are analyzed. Predominant characteristics of materials tested are determined by strength, hardness, impact resistance, torsion resistance, and viscosity tests. A knowledge of the distribution of stress and fatigue on construction materials due to compression, tension, shear, torsion, and bending forces is acquired.

**270 Metal Processing****2 hrs. Fall, Spring**

An introductory study of the principles and practices relating to the properties, processing and application of ferrous and non-ferrous metals, woods, cements, and plastics. The micro-structure and physical properties of materials are analyzed. The effects of heat-treating, welding and working of materials are tested and their suitability for fabricating purposes studied. Prerequisite: Engineering Materials 210.

**370 Strength of Materials****3 hrs. Fall**

This course deals with compression, tension, shear, torsion, and bending forces in structural members, including distribution of stress and fatigue on construction materials.

**372 Testing of Materials****2 hrs. Spring**

A course involving operating principles of testing equipment, determination of mechanical properties of materials, chemical analysis of metals, rheological properties of matter, designing and planning testing procedures, interpretation of test results and report writing.

**374 Fluid Dynamics****2 hrs. Spring**

A comprehensive course covering the practical application of fluids in motion. This course illustrates the relationship between fundamental principles and modern industrial hydraulic equipment.

**376 Thermodynamics****3 hrs. Fall**

A comprehensive course dealing with various types of energy transformations, such as heat, mechanical, electrical, etc. A study is made of the applications of isothermal, adiabatic and polytropic processes in heat-engine cycles.

**470 Statics and Kinetics****3 hrs. Fall**

Mathematical and graphic techniques for ascertaining the magnitude of forces acting on structural bodies under static loads. Included will be elements of rectilinear and curvilinear kinematics, as well as kinetics of plane motion and rotation of bodies. Actual laboratory experiments will be used to test theory and application.

**474 Dynamics****3 hrs. Spring**

Motion of particles and rigid bodies, relation between force, mass and acceleration, work and energy, impulse and momentum. Laboratory experiments will be conducted to analyze results of rigid bodies under action of applied forces.

**INDUSTRIAL SUPERVISION****200 Industrial Relations****3 hrs. Fall, Spring**

This course deals with the principles of employee-employer relations. It includes a study of the basic provisions of the Workmen's Compensation, Social Security, and Labor-Management Relations Acts. Particular attention is given to the human relations aspects of industry.

**300 Fundamentals of Industrial Supervision 2 hrs. Fall, Spring**

A basic course in the study of the foreman's duties, responsibilities, and employer-employee relationship in modern industrial practice.

**302 Plant Maintenance and Industrial Safety 2 hrs. Fall, Spring**

The course emphasizes the importance of industrial safety in the general atmosphere of industry. The cost of accidents, fundamentals of accident prevention, the elements of an effective safety program, accident investigation, first aid and personal protective equipment are all part of the many aspects to be studied. Also included are the techniques and methods of the many facets of Plant Maintenance, including Electrical Maintenance, Lighting Maintenance, Fleet Maintenance, Industrial Painting, Machinery Maintenance, Industrial Flowering and Landscaping. Experts in the various fields are used as resource personnel.

**304 Motion Study 3 hrs. Fall, Spring**

A study of the methods used to analyze a piece of work for the purpose of eliminating all unnecessary motions and building up a sequence of the most useful motions for maximum efficiency.

**305 Time Study 3 hrs. Fall, Spring**

This course deals with the procedures to be followed in accurately determining the time required by a qualified person working at a normal pace to do a piece of work.

**306 Production Control 3 hrs. Fall, Spring**

The methods of controlling and coordinating the factors of production, including materials, time and labor. Emphasis is placed on industrial organization, installation, and types of systems used in industrial production control. Special attention is paid to such control measures as tool control, engineering specifications, inventory control, cost factors, dispatching procedure and forecasting techniques.

**308 Quality Control 3 hrs. Fall, Spring**

A program dealing with the fundamental systems for controlling the quality of material in desired limits. The principles and techniques of administration are discussed as well as a basic introduction to the statistics involved. Standard practices in quality control measures including frequency distributions, control charts, sampling procedures and continuing analysis are all reviewed.

**400 Modern Industrial Practices 6 hrs. Summer**

Students will observe and analyze actual supervisory and managerial functions in industrial and commercial establishments. Conference procedures will be used with consultants participating in exploring all facets of supervisory and managerial practices and procedures.

**402 Industrial Distribution 2 hrs. Spring**

A course introducing the student to the methods used in distributing the technical tools and equipment required by industry. Emphasis is placed on

the ways and means of acquiring the necessary skills to qualify in this highly competitive field.

**404 Materials Handling** **3 hrs. Fall, Spring**

This course deals with the principles involved in the preparation, placement and positioning of materials, supplies and products (in any state) to facilitate their movement or storage. It embraces an analysis of different methods and equipment by which they may be moved or stored and the cost considerations attendant upon them.

**406 Conference Leadership** **3 hrs. Fall, Spring**

Designed to prepare the student entering industry with the basic methods of planning and presenting an industrial conference. Audio-visual aids (charts, graphs & films) will be reviewed as to importance and ways of presentation. Techniques of leadership with opportunity for practical application of these techniques will be provided.

**500 Practical Labor-Management Relations** **3 hrs. Fall, Spring**

A course dealing with existing relationships between government agencies, labor organizations and management. Particular emphasis will be placed on collective bargaining procedures.

**501 Plant Layout** **2 hrs. Spring**

A study of the relationship between plant layout and process arrangement. The importance of layout is emphasized as a primary tool with which to effect efficient production. Consideration is given to such factors as plant location, type of factory buildings, layout of equipment, auxiliary departments and building services.

## MILITARY SCIENCE AND TACTICS

Lt. Col. Virlyn Y. Jones  
Maj. Wilton A. Lee  
Capt. George D. Rankin  
Capt. James N. Walter  
Capt. Richard J. Wooschlager

M/Sgt. Clarence A. Rodden  
SFC Charles O. Farris  
SFC John E. Lowery  
Sgt. Robert J. Barlock

A General Military Science Reserve Officers Training Corps Unit provides training in the Senior Division ROTC, United States Army. Through the ROTC program, graduates may be commissioned Second Lieutenants in a branch of the Regular Army or United States Army Reserve. Enrollment in the ROTC program at Western Michigan University is on a voluntary basis. However, students who enroll in the basic course will be required to complete the two-year basic course as a requirement for graduation. Transfer students of less than Junior standing who started ROTC training in another institution will be required to register for the appropriate class of the basic course and complete the basic course as a requirement for graduation.



The head of the Department is an officer of the United States Army. He is assisted in his duties by other officers and enlisted men of the Army on active duty. The personnel assigned provide the instruction to the student cadets and the administration of the ROTC program at the college.

The ROTC offers basic and advanced courses. Upon completion of both the basic and advanced courses, the prescribed summer camp training, and a college degree, students may apply for commissions as Second Lieutenants in the United States Army Reserve. Distinguished Military Students are eligible, upon completion of the prescribed courses, summer camp and college degree, to apply for appointment as Second Lieutenants in the Regular Army. Students who are enrolled in the ROTC program and maintain satisfactory academic standards may apply for deferment from military service for the purpose of completing college. Uniforms or monetary allowances therefor are provided by the Government to all students who take ROTC work. Additional emoluments for advanced course students are described under the heading of Advanced Course.

A shoe deposit of \$3.00 is required of all students upon entering the Basic Course. This deposit is returned after completion of the first year of the program. An ROTC Activity fee of \$1.50 per year is charged for the support of ROTC activities such as rifle team, band, drill meets, military social events, and for providing suitable achievement awards.

## **BASIC COURSE**

The first two years of military science comprise the basic course which is designed to furnish a background of basic military subjects necessary to pursue the advanced course. The requirements for enrollment in the basic course are as follows: the student must be a citizen of the United States, over 14 and under 23 years of age, physically qualified for military service, regularly enrolled at Western Michigan University, and of good moral character. Students who have had three years of Junior ROTC work (High School ROTC) or six months or more of active military service, may substitute such Junior ROTC training or active military service for the first year of the basic college ROTC course, upon the approval of the Professor of Military Science and Tactics. Students who are thus excused from taking the first year of the basic ROTC course will normally be allowed to enter into the second year of the basic ROTC program at the beginning of their sophomore year. The records of students transferring from other institutions with less than two years basic ROTC credit will be reviewed by the Professor of Military Science and Tactics with a view to placing such students in the appropriate ROTC class. Basic course classes meet for two hours of classroom work and one hour of drill weekly. Although enrollment in ROTC is voluntary, students who enroll in the basic ROTC course are required to complete the course. Students who do not satisfactorily complete the basic course will be required to meet all the requirements in general physical education.

**MS 100 Military Science****2 hrs.**

Includes instruction in Organization of the Army and ROTC; Individual Weapons and Marksmanship; and School of the Soldier and Exercise of Command.

**MS 101 Military Science****2 hrs.**

Includes American Military History; School of the Soldier and Exercise of Command.

**MS 200 Military Science****2 hrs.**

Includes instruction in Map and Aerial Photograph reading; Role of the Army; School of the Soldier and Exercise of Command.

**MS 201 Military Science****2 hrs.**

Crew Served Weapons and Gunnery; and School of the Soldier and Exercise of Command.

**ADVANCED COURSE**

The selection of students for enrollment in the advanced course is on a quality basis. Special attention is given to maintenance of high standards of conduct and academic achievement both before and after enrollment in the advanced course. The entire advanced course is concentrated on the development of individual leadership and a sense of responsibility for duty as an officer of the Army of the United States. For admittance to the advanced course, a student must have completed the basic course, be selected by the Professor of Military Science and Tactics and the President of the university, not be over 25 years of age at time of enrollment, and must execute a contract with the Government to finish the course, attend a six-week summer camp, and accept a reserve commission if tendered. When this contract is signed completion of the advanced course becomes a requirement for graduation. Students who have had one or more years active service with one of the Armed Forces, and students who are transferring from another institution with credit for the basic course, may be authorized to register for the advanced course in phase with their college academic standing. Advanced course classes meet for four hours of classroom work and one hour of drill weekly. Students accepted for the advanced course receive payment of approximately \$27 each month in lieu of subsistence issue. Students attending summer camp are messed and quartered at the expense of the Government, paid at the rate of approximately \$78 monthly while in camp, and are given a travel allowance of five cents per mile from the university to the summer camp and return.

**MS 300 Military Science****4 hrs.**

Instruction in Leadership; Organization, Function, and Mission of the Arms and Services; Military Teaching Methods; First Aid and Military Sanitation; Rifle Marksmanship; School of the Soldier and Exercise of Command.

**MS 301 Military Science****4 hrs.**

Instruction in Small Unit Tactics and Communication; and School of the Soldier and Exercise of Command.

**MS Summer Camp**

Between MS 301 and MS 400 a summer training camp must be attended for a period of six weeks. Transportation to and from camp will be provided and students will be fed, clothed, housed and paid while at camp. Instruction at camp consists of demonstration of and participation in various phases of military activities to include field training.

**MS 400 Military Science****4 hrs.**

Instruction in Operations, Command and Staff, Estimate of the Situation, and Combat Orders; Military Intelligence, the Military Team, Training Management; Logistics and Troop Movements; School of the Soldier and Exercise of Command.

**MS 401 Military Science****4 hrs.**

Instruction in Logistics Supply and Evacuation, and Motor Transportation; Military Administration and Personnel Management; Military Justice; Service Orientation to include the Role of the United States in World Affairs; Leadership; Officer Indoctrination; and School of the Soldier and Exercise of Command.

**OCCUPATIONAL THERAPY**

Rosalia Kiss, Head  
Lois Hamlin

Alice Lewis

Jane Thomas  
Dean Tyndall

The Department offers courses in the following curricula: B.S. degree, and a certificate course for college graduates. These curricula are approved by the American Medical Association, and graduates are qualified to take the American Occupational Therapy Association examination for registration. In order to earn a B.S. degree in occupational therapy, a student must complete a major in occupational therapy and a minor in biology. A mixed science minor is sometimes substituted for a minor in biology in the case of a transfer student.

**100 Art Structure for Occupational Therapy Students 3 hrs. Fall, Spring**

A course giving experience in drawing, lettering, color, and design.

**110 Needlecraft****3 hrs. Fall, Spring**

Designed to cover the basic needle arts such as embroidery and hem-stitching. Also includes fundamentals of knitting and crocheting; basic procedures in rug making; simple construction from patterns; and allied work with cords and threads.

**130 Occupational Therapy Orientation** 1 hr. Fall

A course designed to acquaint the beginning student with the profession. Field trips to occupational therapy departments will be a part of the requirement.

**200 Elementary Design for O.T. Students** 3 hrs. Fall, Spring

A course to develop creativeness in color and design through a variety of media and techniques. Prerequisite: 100.

**202 Minor Crafts** 3 hrs. Fall, Spring

A course giving the techniques and equipment used in basketry, chair caning, leather work, and bookbinding. Special emphasis will be placed on the use of the media in occupational therapy treatment.

**230 Theory of Occupational Therapy** 2 hrs. Fall, Spring

A study of the application of occupational therapy in the psychiatric field. Includes history and philosophy of occupational therapy. Prerequisite: Psychology 200, 322.

**231 Theory of Occupational Therapy** 2 hrs. Fall, Spring

A study of the application of occupational therapy to the pediatric, geriatric, general medical and surgical, tuberculous and other conditions. Prerequisite: Occupational Therapy 230.

**300 Weaving** 3 hrs. Fall, Spring

Designed to give a working knowledge of hand looms. Includes discussion of looms, functional adaptations for special treatments, reading and drafting patterns, warping and threading looms, and types of weaving.

**302 Jewelry** 2 hrs. Fall, Spring

A studio course in the design and technical essentials in jewelry, ceramics, copper, sterling silver. Stone setting and enameling are included. Prerequisite: 100, 200.

**303 Ceramics** 2 hrs. Fall, Spring

A course in the design of functional plastic form in clay. Emphasis is placed on ceramic processes, glazing and kiln management. Prerequisite: 100, and 200.

**310 Therapeutic Activities** 2 hrs. Fall, Spring

A laboratory course in the modalities used by the occupational therapist in the treatment of the patient with orthopedic and neurologic conditions. This course is to be taken in the same semester with Applied Kinesiology 332.

**320 Kinesiology** 3 hrs. Fall, Spring

A basic study of the muscles of the body, classified as to joint motion. Each muscle studied according to origin, insertion and action. This study accompanied by a review of the skeletal and nervous systems, basic terminology and kinesiology. Prerequisite: Anatomy 216 and Physiology 217.

*Occupational Therapy*

- 321 Neuroanatomy and Neurophysiology** 2 hrs. Fall, Spring  
 A study of structure and function of the nervous system prerequisite for the understanding of neurological conditions, and of certain occupational therapy techniques. Prerequisite: Anatomy 216, Physiology 217.
- 322 Psychiatric Lectures** 2 hrs. Fall  
 A series of lectures and clinical demonstrations concerned with the incidence, etiology, psychopathology, symptomatology, and treatment of mental diseases. Includes the observation of occupational therapy during a 24 hour preclinical experience. Prerequisite: Psychology 200, 322.
- 324 Medical Lectures** 3 hrs. Fall  
 A series of lectures on medical conditions treated by the occupational therapist in the field. Prerequisite: Anatomy 216, Physiology 217.
- 325 Neurology and Orthopedics** 2 hrs. Spring  
 A series of lectures on neurological and orthopedic conditions treated by the occupational therapist. Prerequisite: Anatomy 216, Physiology 217.
- 332 Applied Kinesiology** 2 hrs. Fall, Spring  
 Review of normal muscle function and study of motor disabilities related to neurologic and orthopedic conditions. Methods of physical evaluation, measurement of joint motion, muscle testing and re-education. Prerequisite: 320, 321.
- 334 Recreation for the Handicapped** 2 hrs. Fall, Spring  
 Course covers planning recreational activities for the handicapped, including musical and dramatic programs, and games.
- 340 Clinical Practice** 8 hrs. Fall, Spring, Summer  
 Each student is required by the American Medical Association to complete a minimum of nine months of clinical practice. The centers in which the student practices are psychiatric, tuberculosis, general, pediatric, and physical disabilities. Prerequisite: 230 and 231.
- 430 Theory of Occupational Therapy** 2 hrs. Fall, Spring  
 A study of the organization of occupational therapy departments for more effective treatment of patients, and the relationship of occupational therapy to the institutional setting. Prerequisite: Occupational Therapy 230, 231.
- 432 Rehabilitation** 2 hrs. Fall, Spring  
 A course covering the philosophy, development and current practices of medical and vocational rehabilitation, including methods of pre-vocational exploration. Pertinent field trips will be a part of the requirement. Prerequisite: 230, 231.
- 502 Advanced Weaving** 2 hrs. Spring  
 Studies in the more complex forms of fabric structure and design.

**510 Instructional Aids****2 hrs. Fall**

Procurement, construction, and use of equipment and devices needed as aids in the instruction of patients and occupational therapy students. In addition to an explanation of effective uses of such visual helps as models, labels and posters, bulletin boards and exhibits, and the evaluation of available audio-visual materials, there will be a study of the organization of tools equipment and materials as it relates to the learning situation.

**550 Occupational Therapy Modalities****2 hrs. Fall, Spring**

A course designed for the therapist who needs additional skill and knowledge of technical application of certain occupational therapy activities. These modalities will include weaving, ceramics, splints and braces, and self-help devices.

**PAPER TECHNOLOGY**

Alfred H. Nadelman, Head

Robert A. Diehm

John R. Fanselow

Raymond Janes

Carola Trittin

The Department offers three curricula. Option I stresses preparation for scientific and manufacturing areas, Option II prepares students for technical service work for the paper industry and Option III prepares students for sales positions in the paper industry.

A major may be earned only by meeting all requirements of Option I, Option II or Option III. A minor consists of sixteen semester hours and must include courses 100 and 101, 240, 241, 110, 320, 321 and 322 plus three hours in other courses offered by this department.

**99 Summer Mill Practice****No Credit**

In order to gain practical experience, students of pulp and paper technology are required to work in a mill for ten weeks following the second semester. Employment must be secured and/or approved by the Advisory Committee of the Paper Industry. Prerequisite: 100, 101.

**100 Orientation to Paper Technology****1 hr. Fall, Spring**

The course stresses the basic processes used in the manufacture of pulp and prepares the student for summer mill practice.

**101 Orientation to Paper Technology****1 hr. Spring**

A continuation of course 100. The fundamentals of paper making are studied. Prerequisite: 100, or 100 being taken concurrently.

**210 Summer Mill Practice****2 hrs.**

A continuation of paper-mill work to give the student diversified practical experience. The majoring student is required to work in pulp and paper mills at least two out of three summers. Prerequisite: 240, 241. (Open only to majors in Paper Technology.)

**240 Pulp and Paper Manufacture****2 hrs. Fall**

A detailed description of production equipment and chemistry of the processes used in the manufacture of pulp. Visits to various mills are coordi-

nated with the lecture course. Prerequisite: 100, 101; General Chemistry 102, 103, or 100, 101.

**241 Pulp and Paper Manufacture** 2 hrs. Spring

A study of the technological aspects of paper making with discussion of various types of stock-preparation equipment and paper machines. Several mill visits give a deeper understanding of the processes discussed. Prerequisite: 100, 101; General Chemistry 102, 103 or 100, 101; Pulp and Paper Manufacture 240.

**310 Summer Mill Practice** 2 hrs.

Course 310 is optional for students who receive credit for courses 110 and 210.

**312 Mill Inspection Trip** 1 hr.

One week's inspection trip to representative pulp and paper mills.

**320 Evaluation of Pulp and Paper** 2 hrs. Fall

A lecture and laboratory course treating the evaluation of chemical and physical characteristics of pulp. Prerequisite: 240, 241; Quantitative Analysis 222.

**321 Evaluation of Pulp and Paper** 2 hrs. Spring

This course consists of laboratory work and a limited number of lectures pertaining to the evaluation of chemical and physical characteristics of paper. Prerequisite: 240, 241; Quantitative Analysis 222, 320.

**322 Fiber Microscopy** 1 hr. Fall

A general study of the microscopic structure of fibers used in making paper. Qualitative and quantitative fiber analyses are part of the scheduled work. Prerequisite: 240, 241; Physics 111 or 113.

**330 Elements of Industrial Chemistry** 2 hrs. Fall

A study of the most important industrial chemical processes from the point of view, not only of the chemical reactions, but of the conditions and equipment necessary to carry on these reactions. Prerequisite: General Chemistry 102, 103, or 100, 101.

**331 Elements of Industrial Chemistry.** 2 hrs. Spring

A continuation of course 330. Prerequisite: Elements of Industrial Chemistry 330; Organic Chemistry 360.

**332 Wood Chemistry** 2 hrs. Spring

A lecture course which includes the chemistry of cellulose hemicellulose, lignin and extractives. Prerequisite: 240, 241; Organic Chemistry 360.

**340 Coloring and Filling of Paper** 1 hr. Spring

This course includes the evaluation of fillers, pigments, and dyestuffs. Filled and colored sheets are produced in the laboratory in order to familiarize the student with color matching and development of color formulae. Prerequisite: 240, 241; Quantitative Analysis 222.

**400 Auxiliary Equipment for Pulp and Paper Mills 1 hr. Spring**

A discussion of pumps, boiler-house operation, generation of electricity, electric motors, heating, and ventilation. The subjects are presented with the assistance of experienced engineers serving the pulp and paper industry. Prerequisite: 240, 241; Mechanics, Heat and Electricity 103A; Electricity, Sound and Light 103B.

**440 Bleaching, Pulp Purification, and Deinking 1 hr. Fall**

A lecture and laboratory course treating the theory and technique of producing bleached pulp, dissolving pulp and deinked secondary stock. Prerequisite: 332; Quantitative Analysis 222.

**442 Converting of Paper 1 hr. Fall**

A thorough study of a variety of converting operations. Prerequisite: 240, 241.

**460. Paper, Its Markets and Distribution 3 hrs.**

A discussion on marketing and distribution of paper. The subjects are presented with the assistance of experienced sales managers and sales engineers from the paper industry.

**462 Technical and Psychological Factors in Sales of Paper 3 hrs.**

A discussion on the technical and psychological factors involved in the sales of paper. They will be presented with the assistance of experienced sales managers and sales engineers from the paper industry.

**530 Chemistry and Technology of Plastics 2 hrs. Fall**

A general survey of the chemistry and technology of plastics with emphasis upon the synthetic resinous materials used by paper makers and converters. Prerequisite: Organic Chemistry 360, 361.

**540 Principles and Practice of Coated Paper Manufacture 1 hr.**

A lecture and laboratory course on formulating, preparing, and applying pigmented coatings to paper. Principles of rheology, control methods, finishing methods, and testing will be stressed. Visitations to mills engaged in coating paper and paperboard are used to demonstrate practical applications of the principles.

**541 Principles and Practice of Coated Paper Manufacture 1 hr.**

A continuation of course 540.

**550 Microbiology of Pulp and Paper 2 hrs.**

A lecture course on morphological and biochemical activities of microorganisms in the pulp and paper mill. Methods of controlling microorganisms in the paper industry are evaluated.

**570 Research Problems in Pulp and Paper 2 hrs.**

Laboratory development work on a problem pertaining to pulp and paper technology preceded by a survey of available literature.

**571 Research Problems in Pulp and Paper 2 hrs.**

A continuation of course 570.



# *School of Business*

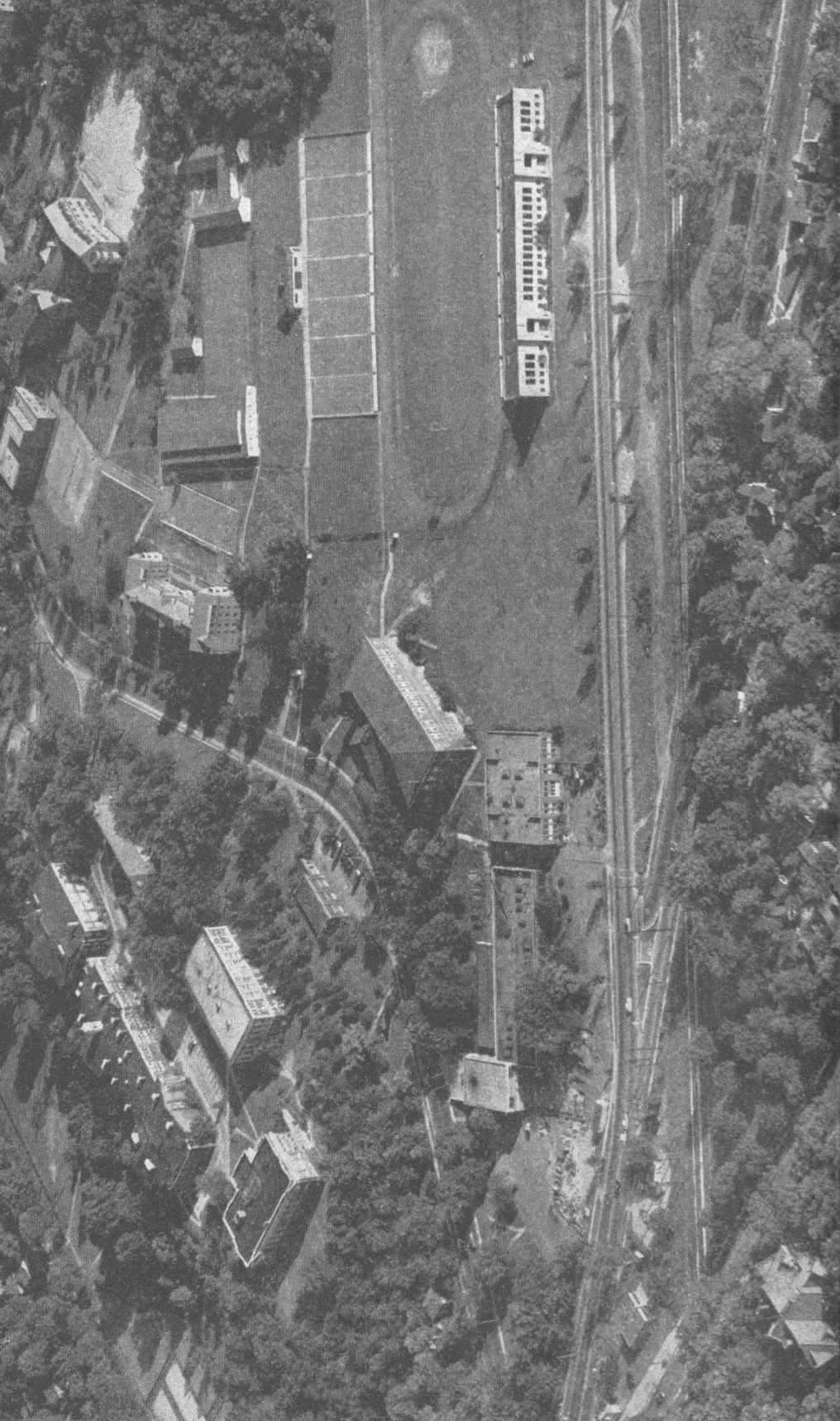
**ARNOLD E. SCHNEIDER,  
Dean**

**Departments:**

**Accounting**

**Business Education**

**General Business**



## OBJECTIVES OF THE SCHOOL OF BUSINESS

The function of the School of Business is to prepare young men and women for responsible positions in business and industry. This preparation embraces three major areas:

1. A foundation of liberal arts and sciences in full recognition that as a future leader in the business and industrial world, the student will need a sound understanding of his relationships to social, economic, political and cultural trends.
2. A thorough grounding in the fundamentals by which our free enterprise economic system operates. These fundamentals are met through such core subjects as accounting, business statistics, business law, finance, marketing, management and business communication.
3. An opportunity for further study in certain specialized areas of business operations.

Opportunity is given students to visit business firms, to listen to outstanding speakers from the business world, and to participate in organizations related to business and industry. Western's Placement Office is visited by almost all of the major firms that are engaged in recruiting activities.

The curriculum for the Bachelor of Business Administration degree is so constructed as to make it possible to achieve the above objectives in four basic phases:

1. Basic studies requirements.
2. Core curriculum in business subjects.
3. Field of concentration in business.
4. Electives to meet specific interests and needs of students.

The School of Business offers three main programs:

1. Business Administration—Bachelor of Business Administration Degree.
2. Business Teacher Education—B.S., B.A. or B.B.A. Degree with a State Secondary Provisional Certificate.
3. Two-year Curricula leading to a certificate:
  - a. Cooperative program in Secretarial Training
  - b. Cooperative program in Retailing or Sales
  - c. Technical Business Program

# I. DEGREE CURRICULA

## BUSINESS ADMINISTRATION

### Bachelor of Business Administration Degree

Students must complete the requirements of the core curriculum in the School of Business as well as a major area of concentration as shown under "Majors in Business Administration." The student must complete at least 48 hours in the fields of Business and Economics of which a minimum of 9 hours must be taken in Economics.

Students in the Business Administration curriculum must also meet the general requirements of the University for the degree.

### REQUIRED CORE CURRICULUM

First Year	S.H.	Second Year	S.H.
Communication 114, 115 or		Humanities 220, 221 or 222, 223	6
College Writing 116, 117	8-6	Speech 104	3
Man and Society 102, 103 or		Economics 200, 201	6
West. Civil. 100, 101	8	Accounting Prin. 210, 211	6
Physical Sci. 108, 109 or		Marketing 240	3
Biol. Sci. 107 and		Business Corres. 242	3
Hum. Geog. 105	8	Business Statistics 244 or	
Mathematics 100, 101 or 102, 103* 4-6	4-6	Mathematics 260	3
Physical Education	1	Physical Education	1
	27-31		31
Third Year	S.H.	Fourth Year	S.H.
General Psychology 200	3	Management Problems 550	3
Corporation Finance 320	3	Physical Education	1
American Nat'l. Govt. 202	3	Major and Minor Requirements	
Business Law 340, 341	6	and Electives	27
Physical Education	1		—
Major and Minor Requirements			31
and Electives	15	If possible, elect two or more	
	—	from the following:	
	31	Economic Geography 244	3
		Economic History of U.S. 316	3
		Psych. Aspect of Bus. 341	3
		Applied Psychology 204	2
		Prin. of Sociology 200	3

\*If a student has had 2 years of high school Mathematics, he may elect Mathematics 102, 103.

## MAJOR AREAS OF CONCENTRATION IN BUSINESS ADMINISTRATION

### Accounting Department

1. Accounting 210, 211; Intermediate Accounting 310, 311; Cost 512; Tax 514; Audit. 416; Accounting Theory and Problems 418. Students planning to major in Accounting should take 210, 211, in their freshman year. Adviser: Wetnight.

### Business Education Department (B.B.A. in Business Education)

1. Teaching of Business Subjects: See suggested majors listed under Business Teacher Curricula.
2. Secretarial Administration: Secretarial Science 186, 187; Office Machines 280, 281; Office Organization 252; Records Management 188; Personnel Administration 350; Management Report Writing 552. (Required courses in the Business Administration Curriculum may be waived in order to meet the needs of the Secretarial Administration program.) Adviser: McBeth.

### General Business Department

1. Finance.
  - a. General Finance: Corporation Finance 320, Insurance Principles 224, Investments 326, Credit Management 324, Security Analysis 520. The major can be completed by selecting courses under the guidance of the adviser from among the following courses: Real Estate Fundamentals 322, Business Trends 420, Intermediate Accounting 310, Management Report Writing 552. Adviser: Grossnickle.
  - b. Insurance: Insurance Principles 224, Property Insurance 424, Casualty Insurance and Suretyship 426, Life Insurance 522, Disability, Group, and Social Insurance 428, Corporation Finance 320. The major can be completed by selecting courses under the guidance of the adviser from among the following courses: Salesmanship 370, Sales Management 376, Advertising 374, Personnel Administration 350, Office Management 556, Management Report Writing 552. Adviser: Burdick.
2. General Business: Upon the approval of the adviser elect a logical sequence of courses from the School of Business which meets the student's vocational interests and needs. Advisers: Sokolowski and Clark.
3. Marketing:
  - a. Salesmanship: Marketing 240; Salesmanship 370; Sales Management 376; Marketing Problems 378; Marketing Research 576; and six hours from any of the following: Purchasing Principles 358; Credit Management 324; Advertising 374; Retailing 172. Adviser: Trader.
  - b. Advertising: Marketing 240; Advertising 374; Salesmanship 370; Sales Management 376; and six to nine hours from any of the following: Marketing Research 576; Personnel Administration 350; Office Management 556; Small Business Management 250. Adviser: Trader.

c. **Retailing:** All Students majoring in Retailing under the Marketing Program must be graduates of the two-year Retailing Cooperative program or its equivalent. Marketing 240; Principles of Retailing 172; Retail Advertising 274; Retail Buying Techniques 278; and ten hours from any of the following: Merchandise Information 178; Retail Credits and Collections 222; Interior and Window Display 272; Color and Design in Retailing 175; or related courses recommended by the adviser. Adviser: Trader.

d. **Small Business Management:** Marketing 240; Small Business Management 250; Advertising 374; Salesmanship 370; Personnel Administration 350; and six hours from any of the following: Sales Management 376; Purchasing 358; Marketing Research 576; Credit Management 324. Adviser: Trader.

#### 4. **Management:**

a. **Office Management:** Records Management 188; Office Machines 280, 281; Typewriting 182, 183 or Proficiency; Integrated Data Processing 452; Office Management 556; plus two to six hours from the following: Intermediate Accounting 310, 311; Income Tax Accounting 514; Cost Accounting 512; Personnel Administration 350; and Management Report Writing 552. Adviser: Niemi.

b. **Personnel Administration:** Personnel Administration 350; Industrial Organization and Management 354; Wage and Salary Administration 352; plus one or more from the following: Training and Education of Personnel 454; Disability, Group, and Social Insurance 428; Employee Publications and Services 458. (A minor in Psychology or Sociology recommended.) Adviser: Clark.

c. **Industrial Management:** Purchasing 358; Cost Accounting 512; Personnel Administration 350; Management Report Writing 552; Indus. Organization and Management 354; Indus. Management Prob. 356; Intro. to Indus. Psych. 340. (Students required to take a minor in Industrial Technology to be approved by the Major and Minor advisers.) Adviser: Niemi.

d. **Integrated (Electronic) Data Processing:** Office Management 556; Management Report Writing 552; Cost Accounting 512; Office Machines 280, 281; Integrated Data Processing 452. (Minor in Mathematics required.) Adviser: Niemi.

e. **Purchasing:** Marketing Problems 378; Purchasing Principles 358; Purchasing Problems 558; Industrial Organization and Management 354. (Minor in Industrial Tech. Required.) Adviser: Sokolowski.

#### **Related Majors**

1. **Air Transportation:** (Students under the Air Transportation curriculum may major in Business Administration.)
2. **Economics:** Elect 24 hours in the Economics Department. Adviser: Bowers.

## BUSINESS TEACHER CURRICULA

A State Secondary Provisional Certificate for teaching of business subjects in grades 7 to 12 is granted to students who complete the secondary degree curriculum requirements with a major in business and one minor, which may be in business. Business Mathematics 100 must be elected. A major and/or minor in the School of Business may be selected from the following fields:

1. Secretarial and related business subjects.
2. Accounting and related business subjects.
3. Salesmanship, retailing and related business subjects.
4. General business and related subjects.

The undergraduate programs in business teacher training may lead to the Bachelor of Business Administration, Bachelor of Arts, or Bachelor of Science degree. The graduate program in business teacher training is designed for the in-service education of classroom teachers and leads to the Master of Arts in Education degree offered through the School of Graduate Studies.

The degree program in secretarial administration leads to a Bachelor of Business Administration degree for those who are on the four-year program.

Students who intend to take a major or a minor in Business Teacher Education should confer with their advisors as early as possible in their sophomore year. It is also possible for students on the B.B.A. curriculum to qualify for a State Secondary Provisional Certificate. Counselors: Cooper, McBeth, Lindquist.

## II. TWO-YEAR CURRICULA

### BUSINESS (TECHNICAL)

The Technical Business Curricula have been specifically designed for those students who are planning to attend the University for a two-year period. The program, which is designed to provide the student with an effective training for the many beginning occupations in business and industry, is divided into two major areas: the cooperative work-and-study programs now found in the Retailing and Secretarial programs, and the regular University classroom programs. Although the enrollment in the cooperative curricula is limited, the student is urged to qualify for these fields whenever possible.

Any high school graduate is eligible for admission to the Technical Business Curricula provided he has been recommended by his high school principal. Students who wish to qualify for the cooperative program must meet certain standards as established. Courses taken either in the cooperative or non-cooperative programs may be applied toward degree requirements provided regular college entrance requirements are met.

All graduates of the two-year Technical Business Curriculum receive a certificate indicating the field of specialization they have completed.

#### 1. Cooperative Program in Secretarial Training

Counselor: Null

The work-study program in Secretarial Training embraces a two-year curriculum which combines classroom instruction on a half-day basis and employment experience during the student's sophomore year.

Students enrolled in this program will have the opportunity to elect such courses as will fit their needs, schedules, abilities, and work programs.

#### Secretarial Curriculum

First Year	S.H.	Second Year	S.H.
Communication 114, 115, or College Writing 116, 117	6-8	Secretarial Accounting 212, 213 or Principles of	
Ind. and Bus. World 140, 141	4	Accounting 210, 211	6
Bus. Mathematics 100	2	Office Machines 280, 281	4
*Secretarial Science 186, 187	10	Records Management 188	2
Personality Development 152	2	Coord. Bus. Experience 282, 283	4
Physics Education	1	Electives**	14
Electives**	6-4		
	—		—
	31		30

\*Students who have not had shorthand or typewriting in high school should register for shorthand 180 and typewriting 182. Students who have had one year of shorthand and one year of typewriting in high school should register for shorthand 181 and typewriting 183.

\*\*Students interested in employment in legal, medical, or educational offices should consult their counselor to select electives to qualify them for placement in their field of interest.



**2. Retail or Sales Occupations****Counselor: Embertson**

The work-study program in retailing embraces a two-year curriculum which combines classroom instruction in the morning and employment in the local stores during afternoons and Saturdays of the Sophomore year.

Students in this curriculum will have the opportunity, in addition to taking the specialized courses in retailing, to elect such other college courses as will fit their needs and abilities.

**Cooperative Retailing or Sales Curriculum:**

First Year	S.H.	Second Year	S.H.
Retail Salesmanship 176	3	Coordinated Retail Experience 270, 271	4
Merchandise Information 178, 179	4	Principles of Retailing 272	3
Business Math. 100	2	Retail Advertising 274	3
Man and Society 102, 103		Retail Buying Techniques 278	3
or Found. of West. Civ. 100, 101	8	Electives	18
Communications 114, 115			—
or College Writing 116, 117	6 or 8		
Physical Education	1		31
Electives	6-8		
	—		
	31		

Students who successfully complete the two-year program (four semesters) with a total of not less than 62 semester-hours will be granted a diploma in Retailing.

**3. Regular (non-cooperative) Technical Business Curriculum****Counselor: Healey**

First Year	S.H.	Second Year	S.H.
Communication 114, 115 or College Writing 116, 117	6-8	Man and Society 102, 103 or Prin. of Economics 200, 201	6-8
Ind. and Bus. World 140, 141	4	Bus. Statistics 244	3
Bus. Corres. 242	3	Corporation Finance 320	3
Prin. of Acctg. 210, 211	6	Small Bus. Mgmt. 250 or Mgmt. Elective	3
Bus. Math.	3	Business Law 340	3
Physical Education	1	Physical Education	1
Electives	6-8	Electives	10-12
	—		—
	31		31

**Fields of Specialization in Technical Business Curriculum**

1. Clerical Accounting: Select from Accounting 310, 311; Pay Roll and Social Security Accounting 214; Office Machines 280, 281; Business Law 340, 341; Office Organization 252; or other Business courses on consent of class instructor; proficiency in typewriting or Typewriting 182, 183.
2. General Business: Select courses in keeping with the student's vocational interests with consent of counselor.
3. Secretarial Training: Secretarial Science 186, 187; Office Machines 280, 281; Records Management 188; Office Organization 252; General Psychology 200.
4. Salesmanship: Salesmanship 370; Advertising 374; Small Bus. Management 250; Sales Management 376; Credit Management 324.
5. General Clerical: Office Machines 280, 281; Typewriting 182, 183; Records Management 188; Office Organization 252; Industrial Cost Accounting 312, 313; Pay Roll and Social Security Acctg. 214.
6. Small Business Management: Accounting 210, 211; Small Bus. Management 250; Advertising 374; Salesmanship 370; Credit Management 324; Real Estate Fundamentals 322.

### III. DESCRIPTION OF COURSES

#### ACCOUNTING

Robert B. Wetnight, Head  
Robert P. Behling  
George Cooper

Gale Clark  
George Kirby  
Leo Niemi

The department of accounting prepares its majors for positions as accountants in industrial, governmental and public accounting enterprises. Twenty-four hours of accounting plus the completion of the core curriculum in Business Administration is required of all majors.

**210 Accounting** **3 hrs. Fall, Spring**

The elementary principles of accounting and the consideration of the more common technical devices for recording business transactions according to those principles. Prerequisite: Sophomore standing or consent of instructor. Accounting majors should start 210 as freshmen, if possible.

**211 Accounting** **3 hrs. Fall, Spring**

A continuation of course 210, applying the principles developed in the preceding course to partnerships and corporations. Manufacturing accounts and statements, reserves and funds, the voucher system and the analysis and interpretation of simple financial statements are studied. Prerequisite: 210.

**212 Secretarial Accounting** **3 hrs. Fall**

The basic principles of accounting are presented from the viewpoint of the secretary. The accounts of private individuals, professional men, institutions, and small business firms are studied.

**213 Secretarial Accounting** **3 hrs. Spring**

A continuation of course 212 in which practical applications will be applied in a large number of work situations. Prerequisite: 212.

**214 Pay Roll and Social Security Accounting** **2 hrs. Spring**

A study of the accounting records and procedures used in meeting the requirements of the social security laws, procedure of pay roll accounting for federal withholding tax laws, and state unemployment insurance.

**310 Intermediate Accounting** **3 hrs. Fall, Spring**

A study of the valuation of current assets, investments, plant and equipment and liabilities as well as their effect on business net income. Current problems in financial statement presentation. Prerequisite: 211.

**311 Intermediate Accounting** **3 hrs. Spring**

A continuation of Accounting 310, including the following topics: partnerships, corporations, special sales, and consolidations. Prerequisite: 310.

**312 Industrial Cost Accounting** 2 hrs. Fall

Expressly designed for the training of industrial supervisors in Accounting Principles, Cost Accounting, and the managerial use of accounting data. Not for students who have completed 210.

**313 Industrial Cost Accounting** 2 hrs. Spring

A continuation of 312. Prerequisite: 312.

**314 Governmental Accounting** 2 hrs. Spring

The study of the accounting principles and practices of federal, state, county and city governmental agencies as well as general institutional agencies. Prerequisite: Accounting 210, 211.

**510 Advanced Accounting** 3 hrs. Fall

Designed specifically for the study of the balance sheet accounts. Prerequisite: 210, 211.

**511 Advanced Accounting** 3 hrs. Spring

A study of accounts for special sales, consolidations, and miscellaneous accounting matters.

**512 Cost Accounting** 3 hrs. Spring

The relation of cost accounting to management for control; general principles involved in constructing a cost system; distribution of cost-materials, labor, and burden; cost records; operating reports; standard costs and budgetary control. Prerequisite: 310 or consent of instructor.

**514 Income Tax Accounting** 3 hrs. Fall

A study of the federal income tax laws, as they apply to individuals, partnerships, and corporations. Prerequisite: 310 or consent of instructor.

**516 Auditing** 3 hrs. Fall

The theory and practice of making audits of business enterprises. Prerequisite: Senior standing, accounting major.

**518 Accounting Theory and Problems** 3 hrs. Spring

Theoretical consideration of accounting problems. Nature and analysis of the type of problems that are to be found in C.P.A. examinations. Prerequisite: Senior standing, accounting major.

**BUSINESS EDUCATION DEPARTMENT**

George K. Cooper, Head  
Agnes Anderson  
Lester R. Lindquist  
Edna F. Kirby

John H. McBeth  
Thomas W. Null  
Roseann Schneider

The department of business education embraces the areas of business teacher training, office supervision, secretarial and specialized stenographic and clerical programs including two-year program of study in the stenographic and secretarial areas leading to a certificate. Students may elect

to work under a coordinated work experience program which permits learning from real-life office situations.

**180 Shorthand** 3 hrs. Fall, Spring

A study of the theory and principles of Gregg shorthand. Typewriting 182 or its equivalent is a requirement for course credit.

**181 Shorthand** 3 hrs. Fall, Spring

A continuation of 180. Dictation is given at various rates of speed. Typewriting 183 or its equivalent is a requirement for course credit. Prerequisite: 180 and 182.

**182 Elementary Typewriting** 2 hrs. Fall, Spring

The mastery of the keyboard and the proper techniques of typewriting are developed in this course. Open to students with less than one year of high school typewriting credit.

**183 Intermediate Typewriting** 2 hrs. Fall, Spring

Special stress is placed upon perfecting the techniques necessary for accuracy and speed in typewriting. A writing rate of 40 words net per minute is required for passing. Prerequisite: 182 or its high school equivalent.

**186 Secretarial Science** 5 hrs. Fall, Spring

Designed for the development of occupational efficiency of a secretary. Special emphasis is given to the building of accuracy and speed for office transcription. Prerequisites: 181 and 183 or its high school equivalent.

**187 Secretarial Science** 5 hrs. Fall, Spring

A continuation of the development of speed and accuracy in shorthand, typewriting, and transcription. Prerequisite: 186.

**188 Records Management** 2 hrs. Fall, Spring

A study of the indexing and filing rules and all types of filing methods and card systems.

**280 Office Machines** 2 hrs. Fall, Spring

This course provides the student with the operating knowledge of office machines that are commonly used in the modern business office.

**281 Office Machines** 2 hrs. Fall, Spring

A continuation of 280. This course is intended primarily for the student preparing for the various office occupations.

**282 Coordinated Business Experience** 2 hrs. Fall

This is a work-experience course limited to those students who are currently enrolled in the cooperative office-training program and are currently enrolled in 186.

**283 Coordinated Business Experience** 2 hrs. Spring

A continuation of course 282 open to students currently enrolled in 187.

**346 Teaching of Shorthand and Typewriting** 2 hrs. Spring

A course in the methods of teaching business subjects with emphasis on shorthand, typewriting, and other stenographic skills. It is recommended that this course either precede or accompany directed teaching in this area.

**347 Teaching of Bookkeeping and Basic Business Courses** 2 hrs. Fall, Spring

A course in methods for the prospective teacher of bookkeeping, business law, economics, business English, and clerical business skills. It is recommended that this course either precede or accompany directed teaching in this area.

**GENERAL BUSINESS**

Arnold E. Schneider,  
Head  
Edwin F. Beal  
Charles A. Blagdon  
William L. Burdick

Gale Clark  
Richard E. Embertson  
Edwin E. Grossnickle  
Frances S. Hardin  
John B. Healey

Leo Niemi  
Russell Powell  
Emil Sokolowski  
Robert B. Trader

The General Business Department includes all of the following areas in the School of Business: Finance, Marketing, Management, Personnel Management, Technical Business, Cooperative Retailing, Business Law, Statistics, Business Communications.

**FINANCE****222 Retail Credit and Collections** 3 hrs. Spring

A practical and detailed study of the meaning and importance of credit. Among the areas covered are: the extent of retail credit; sources of credit information; legal aspects, policies, and procedures; and collection problems.

**224 Insurance Principles** 3 hrs. Fall, Spring

A basic course covering all phases of insurance. The consumer approach is used, designed to acquaint the non-specialist with the economic and social services of the institution of insurance. It also provides the necessary background for the person planning to take advanced work in the field of insurance.

**320 Corporation Finance** 3 hrs. Fall, Spring

Corporate financing, methods of securing and managing capital, distribution of net income. Prerequisite: Accounting 210, 211. (Because of overlapping content credit is not permitted in both Business 320 and Economics 472)

**322 Real Estate Fundamentals** 3 hrs. Spring

A survey of the principles of real estate as they affect personal and business operations. Real estate as an occupational field, value, and land use, and related topics.

**324 Credit Management****3 hrs. Fall**

An introduction to the principles of credit, credit control, and credit management from the viewpoint of manufacturing, wholesale and retail firms. Effective use of credit as a financial and sales device and certain definite aspects of credit such as policies and procedures, collection and legal aspects are studied.

**326 Investments****3 hrs. Fall**

Study of the terminology, principles, and problems of investments.

**420 Current Business Trends****3 hrs. Fall**

A study of sources and information which aid in the description, analysis, and prediction of current business trends.

**424 Property Insurance****3 hrs. Spring**

Deals with Fire Insurance and Allied Lines, Automobile, Ocean Marine, and Inland Marine Insurance. The important phases of the fields which are covered are contract provisions, loss adjustment, rate making, regulation, underwriting, and legal concepts. Prerequisite: 224.

**426 Casualty Insurance and Suretyship****3 hrs. Fall**

Deals with the legal concepts, rate making, regulation, loss adjustment, underwriting, and contract provisions in the Workmen's Compensation, Liability, Theft, and Surety and Fidelity Bonding fields. Prerequisite: 224.

**428 Disability, Group and Social Insurance****3 hrs. Spring**

Considers the economic, social and technical aspects of Accident and Sickness Insurance; Group Insurance; Old Age and Survivors Insurance; and Unemployment Compensation. Prerequisite: 224.

**520 Security Analysis****3 hrs. Spring**

Analysis of securities, market values, and investment programs. Interpretation of financial reports, factors, and conditions. Prerequisite: 420 Current Business Trends.

**524 Financial Management****3 hrs. Fall**

Study of the principles and problems underlying the making of financial policy by the senior financial officers of going concerns. Prerequisites: core subjects for BBA.

**GENERAL BUSINESS****140 Industrial and Business World****2 hrs. Fall**

This is an introductory course which, through a very broad approach, attempts to acquaint the student with existing principles and problems of business and industry. Such topics as types of American businesses, current business problems, current business trends, long-term financing, short-term financing, insurance, physical location and lay-out, production problems are included.

**141 Industrial and Business World** 2 hrs. Spring

This is a continuation of course 140, covering such areas as personnel selection and training, wages, labor problems, marketing functions and problems, management problems and procedures, government and business. Prerequisite: 140.

**242 Business Correspondence** 3 hrs. Fall, Spring

Provision is made in this course for an analysis of and practice in writing various types of business letters and reports. A study is made of the principles of effective expression in all letters of business correspondence.

**244 Business Statistics** 3 hrs. Fall, Spring

An introduction to basic applied business statistics. A study of various statistical and financial ratios as guides to efficient business management and the interpretation of financial data.

**246 Survey of Office Machines** 2 hrs. Fall, Spring

A survey of operating principles and fundamentals and applied usages of the business machines commonly found in industry and business.

**340 Business Law** 3 hrs. Fall, Spring

A study of basic principles applicable to business including legal rights and remedies, contracts, and agency, and employer and employee relations.

**341 Business Law** 3 hrs. Fall, Spring

Continuation of Business Law 340 with emphasis on negotiable instruments, sales, and property.

**540 Law of Personal Property** 2 hrs.

The study of the law including sales, bailments and transportation.

**542 Law of Real Property** 2 hrs.

The study of Real Property including property rights, mortgages, leases and land contracts.

**544 Law of Business Organizations** 2 hrs

Study of law of Business Organizations including partnerships, corporations and trust organizations.

**MANAGEMENT****250 Small Business Management** 3 hrs. Fall, Spring

A study of the fundamental principles involved in the operation of a small business enterprise. The structure, functions, and basic operating principles will be discussed and developed.

**252 Office Organization** 3 hrs. Fall, Spring

Personnel policies and how they affect office workers; handling and procurement of office equipment and supplies; charting of paperwork flow and



methods of paperwork simplification. Professionalization of office work and role of supervisory worker. Designed for those entering professional secretarial work.

**350 Personnel Administration** 3 hrs. Fall, Spring

The personnel office in modern business and industry. The duties and work of the personnel staff, personnel office, records and reports, interviewing, counseling, adjustment of complaints, job analysis, job classification, in-service training, and upgrading of employees. Prerequisite or concurrently Psychology of Personality 220.

**352 Wage and Salary Administration** 3 hrs. Fall

Job analysis and job evaluation; methods of wage and salary payment; incentive systems; community wage and salary surveys; employee merit rating.

**354 Industrial Organization and Management** 3 hrs. Fall

Basic organization of industrial line and staff functions and their relation to each other in the production process.

**356 Industrial Management Problems** 3 hrs. Spring

Case studies of advanced industrial management problems. Industrial Management majors will take this in lieu of Management Problems 550 as offered.

**358 Purchasing Principles** 3 hrs. Spring

Organization and operation of the purchasing department, basic materials, substitutes, imitations, sources of supply, catalogs, terms, discounts, and public relations.

**452 Integrated Data Processing** 3 hrs. Spring

A survey of mechanical and electronic data processing methods with particular emphasis on the application of the electronic system and with special reference to administrative problems experienced in introducing computer systems.

**454 Training and Educational of Personnel** 3 hrs. Spring

Surveying the new profession of industrial trainer; job analysis for training; preparation of job breakdowns and training outlines; on-the-job training of workers; supervisory training; educational program and executive development; training aids and training methods.

**458 Employee Publications and Services** 3 hrs. Spring

Editing the employee publication; functions of employee communication media and recreational services; public relations aspects of employee and community relations.

**550 Management Problems** 3 hrs. Fall, Spring

An opportunity to approach business from the case-study method by working solutions to actual management problems.

**552 Management Report Writing****2 hrs. Fall, Spring**

A study of the techniques in and applications of management reports and management report writing. Actual management reports in the various fields will be studied. The development and practice of technical report writing will be stressed.

**556—Office Management****3 hrs. Spring**

Areas of office services from the managerial viewpoint. A brief overview of the problems of organizing, constructing, installing, and maintaining office systems.

**558 Purchasing Problems****3 hrs. Spring**

A case study course of purchasing problems such as organization, operation, materials management, vendors relations, make or buy. Value analysis and the evaluation of purchasing department performance.

**MARKETING****170 Coordinated Retail Experience****2 hrs. Fall**

A course through which classroom instruction and on-the-job training are coordinated. The requirement for credit will be (1) one semester of approved work experience of at least 200 clock hours, (2) a report from the employer, and (3) a term report by the student. Prerequisite: Retailing curriculum.

**171 Coordinated Retail Experience****2 hrs. Spring**

A continuation of 170. Prerequisite: Retailing curriculum.

**172 Principles of Retailing****3 hrs. Fall**

Designed to give the student an over-all view of the field of retailing. Covers such topics as: a history of retailing; types of retail institutions; store location, layout, fixtures, and equipment; store organization; store record-keeping; customer services; personnel management; systems, and store protection.

**174 Selling Fashion Merchandise****2 hrs. Fall**

A specialized course in the application of salesmanship to fashion merchandise. A study of color and design in fashions, fashion history, fashion functions, influences of changes, and the world's key designers and fashion centers.

**175 Color and Design in Retailing****2 hrs. Spring**

Analysis and evaluation of color and design in merchandise. Research, psychology, theory, harmony, and selection of color are emphasized.

**176 Retail Salesmanship****3 hrs. Spring**

Analyzes successful retail selling. Case problems in salesmanship are frequently discussed and each student is required to give a sales demonstration. Considers various steps in a sale and accompanying customer reactions.

**178 Merchandise Information — Non-Textiles** 2 hrs. Fall

An organized study of non-textile merchandise especially aimed at correlating retail experience with classroom work. Merchandise manuals are studied and developed.

**179 Merchandise Information — Textiles** 2 hrs. Spring

A study of fabrics and textile merchandise. The course includes identification and analysis of fibers, sources of fibers, processes of creating and finishing cloth, and fabric suitability and salability as related to specific merchandise.

**240 Marketing** 3 hrs. Fall, Spring

Functions, institutions, and problems of marketing examined from the viewpoint of their effect on distribution of goods. Credit for this course may be given either in the Economics Department or the School of Business. Prerequisites: Principles of Economics 200, 201, which may be taken either before or in conjunction with this course.

**270 Coordinated Retail Experience** 2 hrs. Fall

A continuation of 170, 171. Prerequisite: Retailing curriculum.

**271 Coordinated Retail Experience** 2 hrs. Spring

A continuation of 270. Prerequisite: Retailing curriculum.

**272 Interior and Window Display** 2 hrs. Fall

A study of window and store display with emphasis on color, design, and lettering. Attention is given to sources of display materials, services, and ideas.

**274 Retail Advertising** 3 hrs. Fall

Stresses newspaper, radio, television, and direct-mail advertising as it applies to the small and medium sized store. Consideration is also given to the promotion calendar and techniques for tying in store displays with various advertising media.

**276 Selling Home Furnishings** 2 hrs. Spring

A study of period styles, materials, construction, and arrangement of furniture as a selling factor. The proper use of accessories, such as lamps, wall decorations, plastics, etc. is emphasized.

**278 Retail Buying Techniques** 3 hrs. Spring

Deals with the work of the store buyer; where, when, and how to buy. Terms, prices, invoices, legal aspects, and other arrangements with vendors are all studied.

**370 Salesmanship** 3 hrs. Fall

An introduction to the principles of selling. Includes study of selling in our present economy, analysis of the steps in a sales demonstration, and a classroom sales demonstration.

**374 Advertising****3 hrs. Spring**

An analysis of the principles and practices used in various types of advertising such as newspaper, radio, and direct mail advertising. Attention is devoted to preparing copy and analyzing current advertising practices.

**376 Sales Management****3 hrs. Spring**

A study from the viewpoint of management dealing with the organization and operation of the sales division within business enterprises. Includes work in the areas of sales structures, selection, training, compensation, territories, conventions, and sales promotion. Prerequisite: Salesmanship 370, or approval of instructor.

**378 Problems in Marketing****3 hrs. Spring**

A study of current marketing problems utilizing the case method of study. The analysis of current periodicals dealing with marketing problems will also be covered in detail. Will provide the student with a practical approach to our dynamic marketing structure and the problems faced in this area. Prerequisite: Marketing 240.

**570 Advanced Salesmanship****3 hrs. Fall**

Background of basic principles and analysis of selling techniques applied principally to specialty fields.

**572 Advertising Copy, Layout and Topography****3 hrs. Spring**

Study of the theory and practice in the writing, preparation and typographical composition of advertising including the writing of radio and television commercials. Prerequisite: Adv. 374.

**576 Marketing Research****3 hrs. Spring**

Designed to give business students experience in using maps, map analysis, and other geographic techniques in presenting market data, evaluating market potential, delineating trading and selling territories, and selecting locations for wholesale, retail, and service establishments. Prerequisites: 240 Marketing, Junior or Senior status, or approval of instructor.

# *School of Education*

**JAMES H. GRIGGS,  
Dean**

## **Departments:**

### **Education**

**Physical Education for Men**

**Physical Education for Women**

**Rural Life and Education**

**Campus School**

**Paw Paw School**

**Educational Service Library**



The School of Education consists of the following departments: Education, Physical Education for Men, Physical Education for Women, Rural Life and Education, Campus School, Paw Paw Schools, and the Educational Service Library.

In general, the School of Education performs four functions:

- (1) Supervises the selection, admission and retention of students in advanced teacher education curricula;
- (2) Offers professional education courses designed to develop competent, efficient performance in the classroom and within a school system;
- (3) Offers advanced specialized courses in selected major and minor fields in departments within the school;
- (4) Offers service courses to students in other schools within the university.

## I. CURRICULA FOR TEACHERS

The program for prospective teachers consists of three parts: (1) general education, designed to develop those understandings and competencies which make for effective living and good citizenship, offered largely in the School of Liberal Arts and Sciences; (2) advanced specialized study, with major and minor interests in the fields of the student's choice, offered in all schools; and (3) professional education courses offered in the School of Education.

In general, prospective teachers choose to work for the State Elementary Provisional Certificate, valid for grades kindergarten through eight, or the State Secondary Provisional Certificate, valid for grades seven through twelve.

Students majoring in art, music, librarianship, or physical education for women may choose either the State Elementary Provisional Certificate or the State Secondary Provisional Certificate. Either certificate will authorize the candidate to teach his special subject in both the elementary and secondary grades when the candidate qualifies in both fields.

Those preferring to teach in smaller communities may elect Rural Life and Education curricula which lead to either the State Elementary or Secondary Provisional certificates, or the State Limited certificate. The latter is valid in the elementary grades of school districts which do not maintain an approved high school. By ruling of the State Board of Education, initial State Limited Certificates will not be issued after June 30, 1960.

◀ The Health Services building is the focal point for health functions on the campus, for several clinics, and houses offices of the School of Education.

**ELEMENTARY CURRICULUM**

A.B. or B.S. Degree

State Elementary Provisional Certificate

(For the preparation of Teachers of Kindergarten and Grades 1-8)

<b>A. Course Requirements</b>	<b>S.H.</b>
1. Language and Literature	9-11
Communication 114, 115 <i>or</i>	8
College Writing 116, 117	6
Literature for Children 282	3
2. Science and Mathematics	12
Biological Science 107*	4
Human Geography 105*	4
Physical Science 108*, 109*	4
(Arithmetic for Teachers 101 is strongly recommended)	
*If the student demonstrates proficiency in any of these subjects by comprehensive examination, he may elect other courses from the division upon the recommendation of his counselor.	
3. Social Science	11
Western Civilization 100, 101 <i>or</i>	8
Man and Society 102, 103	8
American Government 202, 204 <i>or</i> 200	3
4. Humanities 220, 221* <i>or</i> 222, 223*	6
*Temporary equivalents for these courses may be permitted with the consent of the counselor.	
5. Education	24
Human Growth & Development 250	3
Teaching of Reading 312	3
Introduction to Directed Teaching 300	3
Directed Teaching, Laboratory in Education, and General Education Problems 470, 410, 450	15
6. Fine and Practical Arts	12
(Include one course in Art, one teaching course in Music, and one course in Practical Arts.)	
7. Physical Education	4
Must include Elementary School Phys. Ed. 340	
8. Additional General Education Courses	8-10
Eight hours additional work (ten if the student takes College Writing 116, 117) must be elected from non-professional Liberal Arts courses marked by an asterisk in the Division of Basic Studies and the Departments of Art and Music, or from any non-professional courses in the Divisions of Language and Literature, Social Science, and Science and Mathematics.	
9. Electives	36



- B. Three minors of not less than 15 hours each, or one major of not less than 24 hours and one minor of not less than 15 hours are required. The equivalent of at least two minors must be in subjects or subject fields taught in the elementary grades. Certain courses in some departments may not be counted toward majors or minors (See course descriptions).
- C. The candidate must satisfy the requirements of the A.B. or B.S. degree.

## SECONDARY CURRICULUM

### A.B. or B.S. Degree

#### State Secondary Provisional Certificate

#### (For the preparation of Teachers of Grades 7-12)

A. Course Requirements	S.H.
1. Language and Literature .....	6-8
Communication 114, 115 <i>or</i> .....	8
College Writing 116, 117 .....	6
2. Science .....	8
Biological Science 107* .....	4
Human Geography 105*, 107* .....	4
Physical Science 108, 109* .....	4 or 8
*If the student demonstrates proficiency in any of these subjects by comprehensive examination, he may elect other courses from the division upon the recommendation of his counselor.	
3. Social Science .....	11
Western Civilization 100, 101 <i>or</i> .....	8
Man and Society 102, 103 .....	8
American Government 202, 204, <i>or</i> 200 .....	3
4. Humanities 220, 221* <i>or</i> 222, 223* .....	6
*Temporary equivalents for these courses may be permitted with the consent of the counselor.	
5. Education .....	21
Human Growth and Development 250 .....	3
Introduction to Directed Teaching 300 .....	3
Directed Teaching, Laboratory in Education, and General Education Problems 470, 420, 450 .....	15
6. Physical Education .....	4
7. Additional General Education Courses .....	8-10
Eight hours additional work (ten if the student takes College Writing 116, 117) must be elected from non-professional Liberal Arts courses marked by an asterisk in the Division of Basic Studies and the Departments of Art and Music, or from any non-professional courses in the Divisions of Language and Literature, Social Science, and Science and Mathematics.	
8. Electives .....	62

- B. One major of not less than 24 hours and one minor of not less than 15 hours in subjects or subject fields that are taught in secondary schools in Michigan are required. Certain courses in some departments may not be counted toward majors or minors (See course descriptions).
- C. The candidate must satisfy the requirements of the A.B. or B.S. degree.
- D. The candidate for the State Secondary Provisional Certificate must present a methods course in a major or minor field.

For an outline of major and minor requirements, see listings of the respective departments and divisions.

## LIBRARIANSHIP CURRICULUM

A.B. or B.S. Degree

State Elementary or Secondary Provisional Certificate

Elect a Subject Major in Addition to Library Science Minor

(For Teacher-Librarians)

First Year	S.H.	Second Year	S.H.
Basic Studies		Humanities 220, 221	6
College Writing 116, 117	6	General Psychology 200	3
Found. of Western Civilization 100, 101	8	Children's Literature 282	3
Science	8	Human Growth and Development 250	3
Modern Foreign Language	8	Physical Education	2
Introd. to Librarianship 100, 101	2	Electives	17
Physical Education	2		
	—		—
	34		34
Third Year	S.H.	Fourth Year	S.H.
American Government 200	3	Introd. to Directed Teaching 300	3
Organization of Library Materials 230	2	Introd. to Classification and Cataloging 530	4
Reference Service 512	3	Field Assignment Seminar 520	2
Selection of Books and Related Materials 510	3	**Storytelling 546	2
Electives	21	Elementary School Library Mate- rials 516	2
		*Reading Interests of Young Adults 542	2
		Directed Teaching	15
		Electives	2-4
	—		—
	32		30 or 32

\*\*Required only for teacher-librarian candidates in the elementary curriculum.

\*Required only for teacher-librarian candidates in the second curriculum.

Note: A portion of the Directed Teaching period is spent in a selected school library.

**MUSIC CURRICULUM**

B.M. Degree with a major in Public School Music, State Elementary or Secondary Provisional Certificate

First Year	S.H.	Second Year	S.H.
Applied Music*	4	Applied Music*	4
Communication 114, 115		Humanities 220 or 221	
or		or	
College Writing 116, 117	8 or 6	Humanities 222 or 223	
Physical Science 108 and/or 109		or	
or		Approved Alternate	4(3)
Biological Science 107		String Class 128, 129	2
or		Sophomore Theory 260, 261	8
Found. of West. Civil. 100 and/or 101		Advanced Piano Class 220, 221	2
or		Woodwind Class 126, 127	2
Man & Society 102 and/or 103	8	Elementary Acoustics 103	2
Freshman Theory 160, 161	8	Elementary Music Methods 240	3
Voice Class 122, 123	2	Percussion Class 130	1
Piano Class 120, 121	2	Large Ensemble	2
Large Ensemble	2	Physical Education	2
Physical Education	2	Elective (non-music)	4

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 36 or 34

Third Year	S.H.	Fourth Year	S.H.
Applied Music*	4	Applied Music*	4
Brass Class 124, 125	2	Directed Teaching 470	8
Choral and Inst. Conducting 330, 331	2	Lab. in Education 420	4
Junior H. S. Methods 340	3	Genl. Ed. Prob. 450	3
Senior H. S. Methods 341	3	Elective (Non-Music)	3
Hist. and Lit. of Music 370, 371	8	Large Ensemble	2
Human Growth and Devel. 250	3		—
Introd. to Dir. Teach. 300	3		24
Music Arranging 366	2		
Political Science 200	3		
Large Ensemble	2		

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 35

Plus the following courses which carry no credit:

Music Education Band (1 year)	English Dict. and Song Lit. 131
Music Education Orchestra (1 year)	(1 Sem.)
Major Performance Literature (1 year)	French Dict. and Song Lit. 231
	(1 Sem.)
Italian Dict. and Song Lit. 132	German Dict. and Song Lit. 232
(1 Sem.)	(1 Sem.)

\*General Supervisors divide their study between voice and an instrument.  
Instrumental Supervisors concentrate their study on an instrument.  
Vocal Supervisors concentrate their study on voice.

## RURAL LIFE AND EDUCATION

### DEGREE AND PROVISIONAL CERTIFICATE

Curricula, leading to the State Provisional Certificate, are offered with major attention given to preparation for work in rural schools and communities. Majors (24 hours) and minors (15 hours) in Rural Life and Education are provided that students may choose under guidance those courses that will in their judgment most adequately prepare them both personally and professionally. The majors and minors are not limited to students in the department.

Students preparing to teach in elementary schools choose three minors preferably, or a group major and one minor, and additional courses from among both group and general electives. They become familiar with the grades and subject areas of the entire elementary school. The Rural Elementary Curriculum (two years) is the first two years of the Rural Elementary Degree Curriculum.

Students preparing to teach in secondary schools choose majors, minors and additional subject matter courses with thought to the rural backgrounds of the students; also with thought to the variety of teaching and extra-curricular demands to be met in smaller high schools. The rural Elementary Curriculum (two years) includes the foundation courses for the Rural Secondary Degree Curriculum.

Counsel and courses are offered for further professional specialization for principals, superintendents, supervisors and county superintendents. Those preparing to serve rural people in other professional or service occupations, such as ministers, librarians, social workers, and recreational leaders, will find considerable basic work in the offerings of the Department of Rural Life and Education.

### STATE LIMITED CERTIFICATE CURRICULA

(Not operative after June 30, 1960)

The following two-year, 62 hour curricula meet the requirements for the State Limited Certificate which is valid for one year and "qualifies the holder to teach in any primary school district or in any graded school district not maintaining grades above the eighth. All courses must be appropriate to the education of elementary teachers",\* at least 30 hours being in Groups I, II and III. Students are encouraged to complete four-year curricula at the earliest possible moment.

#### A. Rural Elementary Curriculum (Two Years)

This curriculum is planned to give as broad, and at the same time as specific and practical professional preparation for working with children in farm and rural non-farm communities, as is possible in two years.

\*Teachers' Certification Code, Bulletin No. 601, 1942 and later revisions.

	S.H.
1. English <sup>1</sup> .....	6
College Writing 116 (in addition) .....	3
2. Science <sup>2</sup> .....	8
3. Social Sciences <sup>3</sup>	
Rural Sociology 220 .....	3
Rural Economics 230 .....	3
Political Science 202, 204, or 200 .....	3
Elective .....	3
4. Education <sup>4</sup>	
Curriculum 100 .....	3
Intro. to Directed Teaching 202 .....	3
Directed Teaching 203 .....	4
Rural School Administration 305 .....	3
Elective .....	3
5. Fine Arts <sup>5</sup> .....	5
6. Practical Arts <sup>6</sup> .....	1
7. Physical Education <sup>7</sup> .....	2
Men: General Physical Education 102, 103 or 104, 105	
Women: Rural School Physical Education 240	
8. Electives <sup>8</sup> .....	9

Provision is made for a flexibility of choice among the courses in the different groups, under guidance of the departmental counselor.

#### **B. Junior or Community College—School of Education Cooperative Teacher Education Curriculum**

Michigan community colleges and the colleges and university under the State Board of Education have a cooperative program in teacher education. In three semesters in a junior college and the fourth semester in Western Michigan University, minimum requirements may be met for a State Limited Certificate as prescribed in the 1942 Revision of the Teachers' Certification Code.

Recommendation for certification is made by the University. The program is coordinated by a representative from the University who also serves as program counselor for the second year students. In the field service area of Western Michigan University are Grand Rapids Junior and Battle Creek, Benton Harbor and Muskegon Community Colleges.

1. Speech for Teachers 102; American Literature 222 or 223; Literature for Children 283.
2. Basic Agriculture 100; Outdoor Science 231 or 233; Human Geography 105; Health Education 285.
3. State and Local Government 204; United States History 211.
4. Teaching of Reading 312; Human Growth and Development 250. Those selected students permitted to do Directed Teaching 203 in the field while in residence there for six weeks receive 5 instead of 4 hours credit.
5. Art Structure 163; Learning Through Art 140; Rural School Music 241.
6. Rural Practical Arts 104; Family Foods 116; Consumer Problems 154; Clothing 200; Home Furnishings 250; Everyday Nutrition 212; Marriage and Family Relations 354.
7. Men and Women: Square Dancing 125; Social Dancing 124; Rural School Physical Education 240. Women: Physical Education 103; Basketball 105; Individual Gym 100; Swimming 110; Tennis 200; Golf 203; Folk Dancing 120; Advanced Swimming 113; Archery 204; Tap Dancing 126; Badminton 206; Modern Dance 122.
8. These electives may well be chosen from the preferred courses listed in the above notes (1-6), supplemented if necessary from such courses as follow: College Writing 117; Reading Interests of Children 542; Literary Interpretation 210; The English Bible 256, 257; Principles of Speech Correction 252; Arithmetic 150; World Regions 106; Physical Science 108, 109; United States History 210; Illustrative Handwork 121; Industrial Arts 123; University Orchestra 111; University Band 110; University Singers 113.

## SPECIAL EDUCATION CURRICULUM— DEAF AND HARD OF HEARING

B.S. Degree

State Elementary Provisional Certificate

(For the preparation of teachers of deaf and hard of hearing children)

A. Course Requirements		S.H.
1. Language and Literature .....		12-14
Communication 114, 115 <i>or</i> .....	8	
College Writing 116, 117 .....	6	
Literature for Children 282 .....	3	
Problems of the Deaf and Hard of Hearing 254 .....	3	
2. Science .....		18
Biological Science 107* .....	4	
Human Geography 105* <i>or</i> Physical Science 108* .....	4	
Healthful Living 111 <i>or</i> Health Education 242 .....	2	
General Psychology 200 .....	3	
Abnormal Psychology 322 .....	3	
Mental Testing 481 .....	2	
*If the student demonstrates proficiency in any of these subjects by comprehensive examination, he may elect other courses from the division upon the recommendation of his counselor.		
3. Social Science .....		11
Western Civilization 100, 101 <i>or</i> .....		
Man and Society 102, 103 .....	8	
American Government 202, 204 <i>or</i> 200 .....	3	
4. Humanities .....		6
Humanities 220, 221* <i>or</i> .....		
Humanities 222, 223* .....	6	
*Temporary equivalents for these courses may be permitted with the consent of the counselor.		
5. Education .....		38
Human Growth and Development 250 .....	3	
Teaching of Reading 312 .....	3	
Introduction to Directed Teaching 300 .....	3	
Introduction to Special Education 331 <i>or</i> .....	2	
Education of Exceptional Children 530 .....	2	
Mental Hygiene of Childhood and Adolescence 585 .....	2	
Speech for the Deaf 536 .....	2	
Language for the Deaf 537 .....	2	
Introduction to Lip Reading 535 .....	2	
Basic Audiometry 434 .....	2	
Anatomy and Pathology of the Aural Mechanism 538 .....	2	
Directed Teaching, Laboratory in Education, and		
General Education Problems 470, 410, 450 .....	15	
6. Fine and Practical Arts .....		12
Industrial Arts for Elementary Teachers 174 .....	4	
Electives (must include at least one course in Music and		
one course in Art) .....	8	

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|---|------|
| 7. Physical Education .....   | 4    |
| 8. Additional General Education Courses .....   | 8-10 |
| Eight hours additional work (ten if the student takes College Writing 116, 117) must be elected from non-professional courses marked by an asterisk in the Division of Basic Studies and the Departments of Art and Music, or from any such courses in the Divisions of Language and Literature, Social Science, and Science and Mathematics. |      |
| 9. Electives .....  | 13   |
- B. The academic training shall include a major in Special Education (deaf and hard of hearing) and one minor in a subject or subject field taught in the elementary grades. Courses included in the major in Special Education must be elected under guidance and must include those subjects, groups, and hours required for approval by the Department of Public Instruction, American Association of Instructors of the Deaf, and the American Speech and Hearing Association.
- C. The candidate must satisfy the requirements of the B.S. degree.

## **SPECIAL EDUCATION CURRICULUM— MENTALLY HANDICAPPED**

### **B.S. Degree**

#### **State Elementary Provisional Certificate**

**(For the preparation of teachers of mentally handicapped children)**

- |  |      |
|--|------|
| A. Course Requirements .....   | S.H. |
| 1. Language and Literature .....   | 9-11 |
| Communication 114, 115 <i>or</i> .....   | 8    |
| College Writing 116, 117 .....   | 6    |
| Literature for Children 282 .....  | 3    |
| 2. Science .....   | 22   |
| Biological Science 107* .....  | 4    |
| Human Geography 105* .....   | 4    |
| Physical Science 108* .....  | 4    |
| Healthful Living 111 (or Health Education 242) .....   | 2    |
| General Psychology 200 .....   | 3    |
| Abnormal Psychology 322 .....  | 3    |
| Mental Testing 481 .....   | 2    |
| *If the student demonstrates proficiency in any of these subjects by comprehensive examination, he may elect other courses from the division upon the recommendation of his counselor. |      |
| 3. Social Science .....  | 11   |
| Western Civilization 100, 101 <i>or</i> .....  |      |
| Man and Society 102, 103 .....   | 8    |
| American Government 202, 204 or 200 .....  | 3    |

*School of Education*

- |   |       |
|---|-------|
| 4. Humanities .....   | 6     |
| Humanities 220, 221* <i>or</i> .....  | 6     |
| Humanities 222, 223* .....  | 6     |
| *Temporary equivalents for these courses may be permitted with the consent of the counselor.  |       |
| 5. Education .....  | 36-37 |
| Human Growth and Development 250 .....  | 3     |
| Introduction to Special Education 331 <i>or</i> .....   | 2     |
| Education of Exceptional Children 530 .....   | 2     |
| Teaching of Reading 312 .....   | 3     |
| Mental Deficiency 532 .....   | 2     |
| Introduction to Mental Hygiene 381 <i>or</i> .....  | 3     |
| Mental Hygiene of Childhood and Adolescence 585 .....   | 2     |
| Education and Control, Mentally Handicapped 533 .....   | 2     |
| Methods and Materials, Mentally Handicapped 534 .....   | 2     |
| Administration Special Classes, Mentally Handicapped 540 .....  | 2     |
| Introduction to Directed Teaching 300 .....   | 3     |
| Directed Teaching, Laboratory in Education, and<br>General Education Problems 470, 410, 450 .....   | 15    |
| 6. Fine and Practical Arts .....  | 12    |
| Industrial Arts for Elementary Teachers 174 .....   | 4     |
| Electives (must include at least one course in Music and<br>one course in Art) .....  | 8     |
| 7. Physical Education .....   | 4     |
| 8. Additional General Education Courses .....   | 8-10  |
| Eight hours additional work (ten if the student takes College Writing 116, 117) must be elected from non-professional courses marked by an asterisk in the Division of Basic Studies and the Departments of Art and Music, or from any such courses in the Divisions of Language and Literature, Social Science, and Science and Mathematics. |       |
| 9. Electives .....  | 13-14 |
- B. The academic training shall include a major in Special Education (mentally handicapped) and one minor in a subject or subject field taught in the elementary grades. Courses included in the major in Special Education must be elected under guidance, and must include those subjects, groups and hours required by the Department of Public Instruction for approval.
- C. The candidate must satisfy the requirements of the B.S. degree.



# SPECIAL EDUCATION CURRICULUM— SPEECH CORRECTION

B.S. Degree

State Elementary Provisional Certificate

(For the preparation of teachers of speech correction)

A. Course Requirements	S.H.
1. Language and Literature .....	30-32
Communication 114, 115 <i>or</i> .....	8
College Writing 116, 117 .....	6
Speech for Teachers 102 .....	3
Problems of Deaf and Hard of Hearing 254 .....	3
Introduction to Speech Correction 250 .....	3
Principles of Speech Correction 252 .....	3
Phonetics 350 .....	3
Basic Voice and Speech Science 550 .....	3
Stuttering and Allied Disorders 552 .....	3
Applied Speech Correction 554 .....	3
2. Science .....	18-19
Biological Science 107* .....	4
Physical Science 108* .....	4
Healthful Living 111 .....	2
General Psychology 200 .....	3
Abnormal Psychology 322 .....	3
Mental Testing 481 <i>or</i> .....	2
Laboratory in Psychological Testing 380 .....	3
*If the student demonstrates proficiency in any of these subjects by comprehensive examination, he may elect other courses from the division upon the recommendation of his counselor.	
3. Social Science .....	14
Western Civilization 100, 101 <i>or</i> .....	
Man and Society 102, 103 .....	8
Marriage and the Family or Modern Marriage 240 .....	8
American Government 202, 204 <i>or</i> 200 .....	3
4. Humanities .....	6
Humanities 220, 221* <i>or</i> .....	6
Humanities 222, 223* .....	6
*Temporary equivalents for these courses may be permitted with the consent of the counselor.	
5. Education .....	25-26
Human growth and Development 250 .....	3
Introduction to Special Education 331 <i>or</i> .....	2
Education of Exceptional Children 530 .....	2
Introduction to Mental Hygiene 381 <i>or</i> .....	3
Mental Hygiene of Childhood and Adolescence 585 .....	2
Introduction to Directed Teaching 300 .....	3
Directed Teaching, Laboratory in Education, and General Education Problems 470, 410, 450 .....	15

- |   |       |
|---|-------|
| 6. Physical Education .....   | 4     |
| 7. Additional General Education Courses .....   | 8-10  |
| Eight hours additional work (ten if the student takes College Writing 116, 117) must be elected from non-professional courses marked by an asterisk in the Division of Basic Studies and the Departments of Art and Music, or from any such courses in the Divisions of Language and Literature, Social Science, and Science and Mathematics. |       |
| 8. Electives .....  | 15-17 |
| Suggested electives: Anatomy 216, Public Speaking 130, Social Psychology 220, Principles of Social Case Work 360, Teaching of Reading 312, Basic Audiometry 434 or Introduction to Lip Reading 535, Cultural Anthropology 330, Learning and Memory 510.   |       |
- B. The academic training shall include a major in Speech correction and one minor. Courses included in the major in Special Education must be selected under guidance, and must include those subjects required by the Department of Public Instruction for approval.
- C. The candidate must satisfy the requirements of the B.S. degree.

## II. DESCRIPTION OF COURSES

### EDUCATION

Roland S. Strolle, Head	James A. Davenport	Dorothy J. McGinnis
David Adams	Manley M. Ellis	George G. Mallinson
Hubert G. Archer	John L. Feirer	Arthur J. Manske
James F. Billingsley	Orie I. Frederick	Harvey Overton
Gerald Bodine	Robert Fries	Hazel Paden
Earl Borr	Mitchell J. Gary	Lois Robinson
Frederick Brail	Louis A. Govatos	Avis L. Sebaly
Roy C. Bryan	Jane Griffith	Esther D. Schroeder
John A. Buelke	James H. Griggs	Carl B. Snow
Homer L. J. Carter	Elizabeth Johnson	Bess L. Stinson
Clara R. Chiara	John W. Klousia	Sara R. Swickard
George K. Cooper	Eunice E. Kraft	Alfred R. Thea
Isabel Crane	Dorothy McCuskey	

Courses are designed to meet the professional needs of the student preparing to teach. All students pursuing a curriculum for a secondary provisional certificate and a degree are required to take as a minimum 21 hours of professional work in education; 24 hours for the elementary provisional certificate. The following courses, or their equivalent, are required: Human Growth and Development 250, three hours; The Teaching of Reading 312, three hours for elementary teachers; Introduction to Directed Teaching 300, three hours; and Directed Teaching, Laboratory in Education, and General Educational Problems 470, 410 or 420, 450, fifteen hours.

Applicants for the secondary provisional certificate are not permitted to major in Education.

Elective courses are available in the following fields: elementary education, secondary education, special education, methods of teaching, foundations of education, guidance, mental hygiene, and related areas. Certain special-methods courses are available in other departments of the university.

Students take Directed Teaching 470 and Laboratory in Education 410 or 420, twelve hours, during one semester, and General Educational Problems 450, three hours, during either semester of the senior year. Students with advanced credit in education or with irregularities in their professional work should confer with the departmental adviser at the earliest possible date.

#### 100 Introduction to Education

2 hrs. Fall, Spring

**Experimental Freshman Course open to selected students.**

This course is designed to provide an early introduction to the profession of teaching and to the educational services present in communities of the state and nation. Field trips, observations, audio-visual materials, resource persons, tests and personal inventories are used to acquaint students with the purposes and functions of education in American society, and to help students make intelligent choices of areas of specialization within the profession. Course meets three hours a week for two hours credit.

**REQUIRED WORK IN EDUCATION**

(For Provisional Certificate)

**SOPHOMORE OR JUNIOR YEAR****250 Human Growth and Development 3 hrs. Fall, Spring**

Class meets four periods a week for three hours credit. Course deals with physical, social, emotional, and intellectual growth and development of children and adolescents.

**JUNIOR YEAR****300 Introduction to Directed Teaching 3 hrs. Fall, Spring**

This course is designed to prepare students for successful student-teaching. Prerequisite: 250 or equivalent.

**SENIOR YEAR****470, 410 or 420, 450 Integrated Professional Education 15 hrs. Fall, Spring**

For all seniors whose programs will permit them to devote one semester entirely to professional education. A unified course for seniors which is based on needs and problems of students while doing their directed teaching. Prerequisite: 250 and 300, or equivalent; and twice as many honor points as hours of credit.

**470 Directed Teaching 8 hrs. Fall, Spring**

Students devote a half day for one semester to Directed Teaching, at which time they have experience in both the curricular and extra-curricular program of the training school in which they teach. All students expecting to do Directed Teaching should enroll in the Student Teaching Office well in advance of the semester in which the Directed Teaching is to be done.

**410, 420 Laboratory in Education 4 hrs. Fall, Spring**  
(Elementary students enroll in 410; secondary in 420)

Students work individually and in groups on the kinds of problems faced in directed teaching situations in classroom, school, and community. Other problems to be faced later as full-time teachers are considered. Suggestions and guidance are afforded by staff members and by resource persons. The laboratory is divided into elementary and secondary sections.

**450 General Educational Problems 3 hrs. Fall, Spring**

Course content includes such matters as social, political, and economic influences on education; historical and philosophical backgrounds of present-day education; changes and trends in education; and current problems in education.

**OPTIONAL COURSES IN DIRECTED TEACHING****471 Directed Teaching** 4 hrs. Fall, Spring

Only for seniors who have completed most of their professional course work prior to the senior year. Similar to description for 470. Students should enroll at the Student Teaching Office for Directed Teaching 471, 472, or 473 well in advance of the semester in which the Directed Teaching is to be done. Prerequisite: twice as many honor points as hours of credit acquired.

**472 Directed Teaching** 4 hrs. Fall, Spring

Only for seniors who have previously fulfilled a part of their requirement in directed teaching. Similar to description for 471. This course is also offered in extension.

**473 Directed Teaching** 4 hrs. Fall, Spring

This elective course is planned primarily for those students who wish to extend their teaching over a wide range of grades or subjects, and for students who, in the opinion of the head of the department and the Director of Student Teaching, need more experience in teaching. Prerequisite: 472 or 470.

**GENERAL COURSES****502 Curriculum Workshop** 2-4 hrs. Fall, Spring

Opportunity is provided for teachers, supervisors and administrators in selected school systems to develop programs of curriculum improvement. A wide variety of resources is used for instructional purposes, including several specialists, library and laboratory facilities, field trips, audio-visual materials, and the like.

**504 Workshop in Human Relations** 2-4 hrs

Opportunity is provided for teachers, administrators, and other school personnel to work together in the study and solution of problems in human relations, particularly in the fields of intercultural relations, group processes, communication, and home-school-community relations. Resource persons in Psychology, Sociology, Speech, Business, and Education will participate in the workshop. Not offered in 1959-60.

**506 Adult Education** 2 hrs.

This course will include such topics as organizing and financing formal public school adult education programs, promoting informal adult education activities, leadership training, program planning, and adult education group techniques. Students will be permitted to select special areas of interests for research and study. Not offered in 1959-60.

**508 Parent Education** 2 hrs. Spring

Places major emphasis on home problems which have educational implications for the child. Parent-teacher relationships, council programs, and cooperative efforts for improvement of education in home and in school are studied.

**ELEMENTARY EDUCATION****310 Stories for Childhood****2 hrs. Fall**

A study of stories and poems suitable to childhood. Classroom practice in story telling.

**311 Reading Workshop****3 hrs.**

The basic purpose of the workshop will be to study typical classroom reading problems. Tools useful in identifying problems, materials available, and techniques for the teaching of reading will be examined and experimented with in the classroom. Special consideration will be given to a case study of one severe reading problem.

**312 The Teaching of Reading (Elementary)****3 hrs. Fall, Spring**

A summary of the results of the scientific studies made in the field of reading, with suggestions as to the bearing of these studies upon the materials and methods of teaching.

**313 Problems in Elementary Education****3 hrs.**

This course is designed to deal with problems of immediate concern to beginning teachers—discipline, group activity, teacher-pupil planning, and other problems dealing with teaching in the elementary school. Not offered in 1959-60.

**414 Nursery-Kindergarten Education****2 hrs. Spring**

This course will acquaint the students with the history and present-day status of the Nursery School and Kindergarten education. Consideration will be given to the organization, equipment, curriculum, and approved teaching procedures.

**415 Early Elementary Education****3 hrs.**

A study of curriculum practices in the early elementary grades. Students will have an opportunity to work with large centers of interest, be introduced to newer courses of study, and afforded the opportunity of actual participation. Not offered in 1959-60.

**416 Later Elementary Education****3 hrs.**

A study of the characteristics and needs of pupils in the later-elementary grades and of the materials and methods of instruction. Not offered in 1959-60.

**510 The Elementary Curriculum—I****2 hrs. Fall**

A consideration of content and procedures to adapt experiences of pupils in elementary schools to modern conditions and to child needs and interests. Individual or committee reports concerning the improvement of various aspects of the elementary school curriculum will be prepared.

**511 The Elementary Curriculum—II****2 hrs.**

A continuation of 510. Emphasis will be placed on developing and organizing research materials for actual use in school systems represented by those taking the course. Not offered in 1959-60.

**SECONDARY EDUCATION****322 The Teaching of Reading (Secondary)****3 hrs. Fall, Spring**

A summary of the results of the scientific studies made in the field of reading, with suggestions as to the bearing of these studies upon the materials and methods of teaching.

**421 Secondary School Curriculum****2 hrs.**

A study of the principles underlying the revision and reorganization of junior and senior high school curricula and a survey of current practices in adapting the high school offering to modern social conditions and adolescent needs. Not offered in 1959-60.

**520 The Junior High School****2 hrs. Spring**

A detailed consideration of the basic concepts underlying an effective junior high school program. Study of the development and purposes of the junior high school; curricular organization and problems; co-curricular activities; instructional materials.

**SPECIAL EDUCATION****331 Introduction to Special Education****2 hrs.**

A beginning course in the field of special education, dealing with the education of gifted, subnormal, neurotic, delinquent, speech-defective, blind, deaf, and crippled children. Prerequisite: 250. Not offered in 1959-60.

**434 Basic Audiometry****2 hrs.**

Theory and practice of hearing testing with emphasis on the development of audiometric techniques. Interpretation of audiograms with respect to clinical and educational recommendations. Not offered in 1959-60.

**530 Education of Exceptional Children****2 hrs. Fall, Spring**

Deals with the problems and methods involved in the adjustment and training of exceptional children in the schools—the mentally retarded, the gifted, the crippled, the deaf, the blind, the emotionally unstable, and the delinquent.

**531 Methods and Materials for the Deaf****2 hrs.**

The course deals with curricula, curricular materials, and special methods to be employed in teaching deaf and hard of hearing children. Not offered in 1959-60.

**532 Mental Deficiency****2 hrs. Spring**

A course in the psychology and pathology of mental deficiency including causation, diagnosis, classification, prognosis and therapy at all levels. Prerequisite: 250 or equivalent.

**533 Education and Control, Mentally Handicapped 2 hrs. Spring**

The course deals with the roles of the courts, institutions, schools and other agencies in control, education and custody of the mentally handicapped. Prerequisite: 250 or equivalent.

**534 Methods and Materials, Mentally Handicapped 2 hrs. Fall, Spring**

Principles of learning and instructional practices applicable to mentally handicapped children. Special attention is given to problems of the mentally retarded child with elementary curricular materials.

**535 Introduction to Lip Reading 2 hrs. Spring**

A course designed to acquaint the student with the various methods of lip reading and the problems encountered in the teaching of this skill. The student is given opportunity to acquire elementary lip reading skill as well as practice in the techniques of teaching.

**536 Speech for the Deaf 2 hrs. Fall**

Teaching methods used for the development of speech in congenitally deaf children. The formation of speech elements and their combination into words. Use of residual hearing for speech and voice improvement.

**537 Language for the Deaf 2 hrs.**

The development and application of the principles of the English language and presentation to the deaf children. Attention will be given to the Language Principle Method, the Barry Five Slate System, Straight Language for the Deaf, and Wings Symbols. Not offered in 1959-60.

**538 Anatomy and Pathology of the Aural Mechanism 2 hrs. Fall**

A survey of anatomical and physiological subject matter bearing on the speech field of hearing; functional tests of hearing; and discussion of the pathological conditions of the ear and labyrinth.

**539 Clinical Audiometry and Audiology 2 hrs.**

This course deals with the physics of sound, with the ear as a sound receiver, and with clinical methods of measuring hearing. The interpretation of test results for the purposes of re-education and the necessary follow-up measures in an educational hearing program are studied. Students will be given actual practice in group and individual audiometric testing. Not offered in 1959-60.

**METHODS OF TEACHING****340 Art Observation 1 hr. Fall**

Observation of art activities in the training school and discussion and illustration of these problems.

**344 Teaching of Industrial Education 3 hrs. Fall, Spring**

This course deals with the problems in teaching industrial arts subjects, the techniques employed in the analysis of instructional units, construction of tests and rating scales, and problems dealing with administration and work. The principal methods of instruction used in industrial arts subjects.



**345 Plan and Organization of a School Shop 2 hrs. Fall, Spring**

This is a course to help teachers plan and organize the school shop. Topics concerned include physical needs of the subject, selection of activities, shop layout, purchasing equipment, establishing a supply routine, planning personnel organization, and shop management.

**346 Teaching of Shorthand and Typewriting 2 hrs. Spring**

A course in the methods of teaching business subjects with emphasis on shorthand, typewriting, and other stenographic skills. It is recommended that this course either precede or accompany directed teaching in this area.

**347 Teaching of Bookkeeping and Basic Business Courses 2 hrs. Fall, Spring**

A course in methods for the prospective teacher of bookkeeping, business law, economics, business English, and clerical business skills. It is recommended that this course either precede or accompany directed teaching in this area.

**348 Introduction to Audio-Visual Education 3 hrs.**

Survey of various types of Audio-Visual Aids; functions in the learning process; practice in selecting and evaluating materials; equipment instruction in laboratory periods with proficiency in operation required; and techniques of good utilization of Audio-Visual materials. Not offered in 1959-60.

**442 Teaching of Latin 2 hrs.**

The problems of the first two years of high-school Latin are considered. Observations of teaching, reports, and discussions will form a part of the work. This course is prerequisite to directed teaching in Latin. Not offered in 1959-60.

**540 Administration Special Classes, Mentally Handicapped 2 hrs.**

Principles and practices of organization and administration at state, county and district levels. Legal aspects including state aid. Not offered in 1959-60.

**541 Art Supervision 3 hrs. Spring**

A study of the curriculum and its needs in art activities. A course of study will be outlined and administration problems discussed. Prerequisite: 151, 153, 217, 232, 233, 251.

**544 Methods in Physical Education 2 hrs. Fall**

Fundamental principles underlying the selection of subject matter and the technique of teaching gymnastics, games, and rhythmic work for elementary and high-school pupils. Opportunity for observation and making of lesson plans.

**546 Driver Training and Safety Education 2 hrs. Fall, Spring**

Deals with several aspects of safety education in the home, school and community, with special emphasis on preparing secondary school teachers of driver training and safety education. Materials and methods, psycho-

physical testing, sound driving practices, pedestrian protection, "Behind-the-Wheel" training in dual-control cars, and accident prevention procedures are an integral part of the course.

**548 Audio-Visual Education** **2 hrs. Fall, Spring**

Acquaints teachers and administrators with the principles and practical uses of multi-sensory aids to education, including field trips, machines, and creative materials.

**549 Production of Instructional Materials** **2 hrs. Spring**

This workshop or course provides for many laboratory experiences in making such instructional materials as: bulletin board displays, charts, wet and dry mounting of pictures, film strips and 2" x 2" slides, silk screen process, magnetic boards, handmade slides, mimeograph techniques, etc. Not offered in 1959-60.

## **FOUNDATIONS OF EDUCATION**

**350 Character Education** **2 hrs.**

The objectives of character education are studied and catalogued. The influences of the curriculum, the cardinal principles of education and social agencies, in relation to heredity and environment, are observed. A bibliography of methods and materials is collected. Not offered in 1959-60.

**550 Education for Moral and Spiritual Values** **2 hrs.**

Open to teachers, counselors, administrators, and others who are interested in helping children and youth develop desirable behavior patterns based on fundamental moral and ethical principles. Involves a study of procedures and activities designed to develop good value-judgments which will carry over in family, school and community relationships. Not offered in 1959-60.

**551 Philosophy of Education** **2 hrs. Spring**

For graduate students and teachers of experience. Analyzes and interprets the changes in education taking place in this and other countries.

## **ADMINISTRATION AND SUPERVISION**

**460 Organization and Administration of Physical Education** **3 hrs. Fall, Spring**

The planning of physical-education programs for city, village, and rural schools; the organization of health lessons, games, tests, meets, tournaments, and seasonal play; principles of supervision; construction and equipment of buildings, grounds, swimming pools, athletic fields, stadia.

**561 Administration and Organization of Physical Education** **2 hrs. Spring**

This course presents the problems that arise in the everyday experience of the instructor. Among the topics considered are administration of activities, physical examinations, excuses, special cases, records, schedules and relations with other services in the school.

**GUIDANCE, MENTAL HYGIENE, AND INDIVIDUAL SERVICES****381 Introduction to Mental Hygiene****3 hrs.**

A course in the mental hygiene of childhood and adolescence. Among the topics considered are: adjustment to home and school; failure, frustration, and aggression; role of the emotions in education; adolescence and its problems; sex development; juvenile delinquency; the mental hygiene of courting, mating, and marital relations; the mental hygiene of religion. Not offered in 1959-60.

**482 Clinical Problems in Reading****2 hrs. Fall, Spring**

This course provides practical experience in Reading Laboratories sponsored by the Psycho-Educational Clinic. Diagnosis and treatment of reading problems at either the elementary level or secondary level are emphasized. The course deals with physical, mental, and emotional factors affecting reading performance. Open to advanced students with permission of instructor.

**580 Introduction to Guidance Services****2 hrs. Fall, Spring**

A basic introductory course for all secondary and elementary teachers, including a survey of the history, principles, problems, methods, organization and methods of guidance. Special attention is centered on the individual, his needs and adjustments, and on counseling procedures.

**581 Techniques of Guidance****2 hrs. Fall, Spring**

This course is designed to give competencies in the use of school records, instruments of measurement, case studies, interview, group guidance, placement, follow-up and community resource.

**582 Occupational Information for Counselors and Teachers****2 hrs. Spring**

Stresses knowledge of sources, use, evaluation and techniques of imparting occupational information. Recent trends in the major occupations are also discussed.

**583 Guidance Workshop****2 hrs. Spring**

The workshop is designed for teachers, counselors, supervisors, and administrators in selected school systems to study particular guidance problems and procedures in relation to their local guidance program. A wide variety of workshop methods and resources is used.

**585 Mental Hygiene of Childhood and Adolescence****2 hrs. Fall, Spring**

Deals with the problems of emotional adjustment and maladjustment in childhood and adolescence.

**587 Educational Therapy in Reading****2 hrs. Spring**

A study is made of the psychological, sociological and physiological factors affecting children's reading ability, together with laboratory application of such knowledge in the prevention, diagnosis and treatment of reading problems. Open only to experienced teachers by permission of the instructor.

## PHYSICAL EDUCATION FOR MEN

Mitchell J. Gary, Head	John W. Gill	William Rowekamp
Donald E. Boven	Joseph T. Hoy	Merle J. Schlosser
Patrick J. Clysdale	Jack D. Jones	Thomas C. Slaughter
George Dales	Lynn E. Lynch	Raymond F. Sorensen
Donald K. Edwards	Charles H. Maher	Fred L. Stevens
Edward A. Gabel	Richard Raklovits	Roy J. Wietz

## THE GENERAL PHYSICAL EDUCATION REQUIREMENT

All men must participate in general physical education beginning with the first semester of residence, until a minimum of four hours is completed, except that only three hours of general physical education credit will be required of those men who were enrolled before or during the academic years of 1954-55 and 1955-56. The four-hour requirement was resumed effective at the beginning of the academic year 1956-57 except for the exemption mentioned above. A medical examination is required of all students upon initial entrance.

A member of an athletic squad upon recommendation of the coach concerned, may receive credit for general physical education provided he officially enrolls for physical education class and attends the class until the instructor arranges for his transfer to the athletic squad. If he is dropped from or withdraws from the athletic squad or when the season in the sport concerned ends, he must report back immediately to the physical education instructor and attend class thereafter or credit will not be given.

Veterans of military service are subject to the same requirements in general physical education as non-veterans.

Majors or minors specializing in physical education are not required to complete the general physical education requirement.

Each transfer student must complete 4 semester hours credit in general physical education. He must enroll for and participate in general physical education during the first semester of residence at Western Michigan University and thereafter each semester until the requirement is completed. This requirement is in effect regardless of whether or not general physical education was required at the previous institution. If time limitations will not permit the transfer student or other student to complete the minimum requirement in general physical education before graduation, he should enroll in a course meeting 3 hours weekly in order to earn the maximum credit possible during each semester before graduation.

Participation in Band may be substituted for physical education credit except that a minimum of one semester hour of credit must be earned by actual participation in general physical education course 115 by each student who is participating in band. Substitution of band participation for physical education credit during the second semester is possible only if the student has participated in the *marching* band during the first semester.

Each male student shall enroll either in general physical education or ROTC beginning with the first semester of residence. During the first four semesters in which he is enrolled in basic ROTC he is excused from general physical education. If he completes the basic ROTC program, the requirement in general physical education for graduation is waived.

Students who withdraw or are dropped from the ROTC program before satisfactory completion of the first two years must meet all of the requirements in general physical education. Any participation less than satisfactory completion of the two-year program in ROTC may not be substituted for a part of the general physical education requirement.

Students in Occupational Therapy and in Medical Technology will complete 2 hours credit in Physical Education classes during their stay on campus and 2 hours credit will be given them for activities in the affiliated program off-campus.

Students enrolled in the terminal and in the two-year pre-professional curricula must participate in general physical education *beginning with the first semester of residence*, until the requirement is completed.

No student is excused from fulfilling the requirement because of physical disability, but program adjustments are arranged to take care of individual needs.

*Students with irregular programs or with physical disabilities* should consult the person in charge of general physical education to determine what recommendation may be made for satisfactory completion of the general physical education requirement.

Activities in the General Physical Education courses are especially designed to meet the physical needs of the men who are not specializing in Physical Education. Emphasis is on fundamentals of the sports of the seasons, calisthenics, gymnastics, tumbling, marching and swimming. Courses are arranged in progression.

Swimming instruction will be offered to each student enrolled in courses 113 and 115 during one-half of each semester. Freshmen must enroll in either 113 or 115 during either, but not both, of their first two semesters. These courses will be offered each semester during the forenoon between 8:00 a.m. and 12:00 noon.

Either 102, 103, 104, or 105 and either 113 or 115 should be completed before the student enrolls in the 200 group. A student may not receive credit for both 102 and 104. This also applies to 103 and 105, to 113 and 115, and to corresponding courses at the 200 and 300 levels.

Either 202 or 204 and either 203 or 205 must be completed before the student enrolls in the 300 group. One semester of Bowling 213 or 215 may be elected at the 200 level. The 300 courses are organized to give additional participation in activities of major interest. A course may not be repeated for additional credit.

*School of Education*

- 104 General Physical Education 1 hr.
- 105 General Physical Education 1 hr.
- 106 General Physical Education 1 hr. (Summer only)
- 107 Beginning Swimming 1 hr. (Summer only)
- 108 General Physical Education (Tennis) (Summer only) 1 hr.
- 115 General Physical Education (Swimming) 1 hr.
- 204 General Physical Education 1 hr.
- 205 General Physical Education 1 hr.
- 206 General Physical Education 1 hr. (Summer only)
- 215 General Physical Education (Bowling) 1 hr.
- 304 General Physical Education 1 hr.
- 305 General Physical Education 1 hr.

**COURSES FOR SPECIALIZING STUDENTS**

Required courses for the twenty-four hour major in physical education are 140, 141, 150, 230, 231, 232, 233, 240, 330, 370, 380, 440. Strongly recommended electives are 270, 351.

Required courses for the minor in physical education are 140, 141, 230, 231, 232, 233, 240, 370.

Education 460 is required of those who plan to do directed teaching in physical education, whether they be majors or minors.

Biology 100, Healthful Living 111, and Anatomy-Physiology 213 are required for physical education majors. These courses satisfy the biological science requirements in basic studies.

**140 Individual and Team Sports****1 hr. Fall**

Covers material used in physical education classes for elementary and high school levels. Fundamentals, organization, and rules of soccer, speed-ball, wrestling, hand-ball, and badminton are emphasized.

**141 Individual and Team Sports** 1 hr. Spring

A continuation of No. 140. Volleyball, archery, tennis and softball are emphasized. Prerequisite: 140.

**230 Fundamentals and Technique of Football** 2 hrs. Fall, Spring

Fundamentals of football coaching, with special emphasis on blocking, tackling, passing, kicking, and line and backfield maneuvers. Building an offense, principles of defense formations, scouting and rules.

**231 Fundamentals and Technique of Basketball** 2 hrs. Fall, Spring

This covers the theory and practice of basketball coaching. Foundation skills are stressed, with a study of offensive and defensive systems. A personal textbook involving all material is created.

**232 Fundamentals and Technique of Baseball** 2 hrs. Fall, Spring

Theory and practice in base running, fielding, batting, and pitching; detailed study of each position; offensive and defensive team play; officiating; scoring; study of rules.

**233 Fundamentals and Technique of Track and Field** 2 hrs. Fall, Spring

The accepted forms for starting, sprinting, hurdling, distance running, and for field events. Factors affecting speed, endurance, and fatigue. The selection and preparation of contestants. Managing of meets.

**240 Gymnastic Techniques** 2 hrs. Fall, Spring

Fundamentals and routines of tumbling, side horse, parallel bars, rings, horizontal bar, and trampoline. Prerequisites: 140 and 141.

**270 Camping and Scouting** 3 hrs. Spring

History, principles, and aims of the Boy Scout movement. Tests are passed and techniques mastered. General camping material is presented and tested in evening and overnight hikes. Good background for potential scoutmasters.

**330 Swimming** 1 hr. Fall, Spring

This course for physical education majors and minors is basic. Instruction is given to beginners with emphasis on the various strokes. Competent swimmers may participate in qualification tests for Senior Life Saving.

**351 Psychology of Coaching** 2 hrs. Fall, Spring

Considers principles of psychology and their application to athletics and athletic coaching. Phases considered are: Preparation for coaching; practice sessions; presenting material effectively; planning the season's campaign; personality and will power.

**370 Playground and Community Recreation** 3 hrs. Fall, Spring

Nature and function of play; age periods and adaptations of activities; social environment; needs and objectives; playground development; construction, management and supervision. Study of outstanding programs in operation. A survey of recreational material.

*School of Education***380 First Aid and Athletic Training****3 hrs. Fall, Spring**

Knowledge and skill in meeting emergencies. The use of massage, strappings, and training room techniques from the coach's point of view. Prerequisites: Anatomy 216 and Physiology 217 or Anatomy and Physiology 213.

**440 Principles and Technique of Gymnastic Teaching****2 hrs. Fall**

The materials and skills covered in 140, 141, 240 are now presented from the angle of the prospective teacher. Notebook. Leadership emphasized. Prerequisite: 240.

**HEALTH EDUCATION**

A minor is offered in health education which includes six semester hours of required courses with additional hours from the elective courses listed below to complete a minimum of fifteen semester hours.

Required Courses	S.H.	Elective Courses	S.H.
General Biology 100 (Applicable only to Men Phys. Ed. Majors) 4		Healthful Living 111	2
or		Anatomy and Physiology 213	4
Biological Science 107		Psychology of Personality 220	3
Health Education 242 or 243	2	Anatomy & Physiology 216, 217	8
	—	Community Hygiene 212	3
	6	Psychology of Adolescence 270	3
		Everyday Nutrition 212	2
		Introduction to Mental Hygiene 381	3
		Modern Marriage 240	2
		Methods & Materials for School Health Education 514	2

**PHYSICAL EDUCATION FOR WOMEN**

Crystal Worner, Head  
Helen Brown  
Isabel Crane  
Eleanor Douglass

Joette Hains  
Doris Hussey  
Margaret Large

Margie Miner  
Candace Roell  
Marion Spalding

Four semester hours of physical education are required for the degree of Bachelor of Arts or Bachelor of Science. The maximum amount of physical education credit to be earned in one semester is  $1\frac{1}{2}$  semester hours. Transfer students who may need to increase the hours should consult with the department chairman. Physical fitness of the student for participating in the physical education program is determined by medical examination. No student is excused from fulfilling the requirement because of physical handicap, but program adjustments are arranged to take care of individual needs. Body Mechanics 100 is a requirement for those students with postural defects for whom it is recommended. When this is the



*Physical Education for Women*

case, 100 becomes a prerequisite for all other courses in physical education. Uniforms, which are required for activity classes, should be purchased at the Campus Store.

Physical Education majors are required to take the following subjects in Biological Science: Biology 100, Anatomy 216, Physiology 217, and Healthful Living 111. These courses meet the Basic Studies requirements in Biological Science as well as the Physical Education requirements in that field.

In the area of Physical Education the major requirement includes courses 150, 180, 181, 245, 246, 247, 248, 276, 280, 281, 350, 360, 380, 381, 480, 550, 561, and in Education, 544, and 561.

Health Education 242 or 243 is required of all physical education majors, but it may be counted toward the major in physical education or toward the minor in health education. A twenty-four hour major planned for students who do not intend to teach in this field only, may be arranged with the head of the Department.

Requirements for a Physical Education minor are either Elementary School Physical Education 245, 246 or Secondary School Physical Education 247, 248; six hours of physical education activity courses to be approved by the department advisor and additional academic courses to make a total of fifteen hours selected from the following: 150, 242, 243, 276, 360, 544, and 561.

**HEALTH EDUCATION**

A minor is offered in health education which includes six semester hours of required courses with additional hours from the elective courses listed below to complete a minimum of fifteen semester hours.

Required Courses	S.H.	Elective Courses	S.H.
General Biology 100	4	Healthful Living 111	2
or		Anatomy & Physiology 213	4
Biological Science 107		Psychology of Personality 207	3
Health Education 242 or 243	2	Anatomy & Physiology 216, 217	8
	—	Community Hygiene 212	3
	6	Psychology of Adolescence 270	3
		Everyday Nutrition 212	2
		Introduction to Mental Hygiene	
		381	3
		Modern Marriage 240	2
		Materials for School Health	
		Education 514	2

**GENERAL PHYSICAL EDUCATION COURSES****99 Posture Counseling**

The student is given a posture examination and counselled regarding her body mechanics before enrolling in any physical education class. Re-checks are given at intervals determined by student needs. No hours of credit are given, but this course must be satisfactorily completed in order to fulfill the physical education requirement.

**100 Body Mechanics****2/3 hr. Fall, Spring**

A course of remedial exercise for students who do not pass the postural examination.

Credit will be given in this course for one repetition only.

**101 Adapted Physical Education****2/3 hr.**

Sports and recreational activities for students with physical limitations. Not offered in 1959-60.

**102 Adapted Physical Education****1 hour**

Sports and recreational activities for students with physical limitations. Not offered in 1959-60.

**103 General Physical Education****2/3 hr. Fall, Spring**

The aim of this course is to give the student an understanding of the values of participation in physical activities, and to aid her in determining her physical abilities and needs. Discussion and activity periods.

**104 General Physical Education****1 hr. Fall, Spring**

The aim of this course is to give the student an understanding of the values of participation in physical activities, and to aid her in determining her physical abilities and needs. Discussion and activity periods. Content of this course is the same as for course 103.

Credit will not be given for both 103 and 104.

**105 Individual and Team Sports****2/3 hr. Fall, Spring****106 Individual and Team Sports****1 hr. Fall, Spring**

Credit will not be given for both 105 and 106.

**108 Horsemanship****1/3 hr. Fall, Spring****109 Horsemanship****2/3 hr. Fall, Spring**

Credit will not be given for more than 1 hour of Horsemanship.

**110 Swimming, Beginning and Intermediate****2/3 hr. Fall, Spring****111 Swimming, Beginning and Intermediate****1 hr. Fall, Spring****112 Swimming, Advanced and Synchronized****2/3 hr. Fall, Spring****113 Swimming, Life Saving and Instructor's Test****2/3 hr. Fall, Spring**

Credit will not be given for more than 2 swimming courses.

*Physical Education for Women*

- |   |         |              |
|---|---------|--------------|
| 114 Folk Dance and Recreational Games                                 | 2/3 hr. | Fall, Spring |
| 115 Folk Dance and Recreational Games                                 | 1 hr.   | Fall, Spring |
| Credit will not be given for both 114 and 115.                        |         |              |
| 116 Tennis and Basketball   | 2/3 hr. | Fall, Spring |
| 117 Tennis and Basketball   | 1 hr.   | Fall, Spring |
| Credit will not be given for both 116 and 117.                        |         |              |
| 118 Outdoor Team Sports and Badminton                                 | 2/3 hr. | Fall, Spring |
| 119 Outdoor Team Sports and Badminton                                 | 1 hr.   | Fall, Spring |
| Credit will not be given for both 118 and 119.                        |         |              |
| 120 Folk Dance  | 2/3 hr. | Fall, Spring |
| 121 Folk Dance  | 1 hr.   | Fall, Spring |
| Credit will not be given for both 120 and 121.                        |         |              |
| 122 Modern Dance  | 2/3 hr. | Fall, Spring |
| Individual and group study of expression through rhythmical movement. |         |              |
| 123 Modern Dance  | 1 hr.   | Fall, Spring |
| Individual and group study of expression through rhythmical movement. |         |              |
| Credit will not be given for both 122 and 123.                        |         |              |
| 124 Social Dance  | 2/3 hr. | Fall, Spring |
| 125 Square Dance  | 2/3 hr. | Fall, Spring |
| Credit will not be given for both 124 and 125.                        |         |              |
| 126 Tap Dancing   | 2/3 hr. | Fall, Spring |
| 128 Golf and Volleyball   | 2/3 hr. | Fall, Spring |
| 129 Golf and Volleyball   | 1 hr.   | Fall, Spring |
| Credit will not be given for both 128 and 129.                        |         |              |
| 130 Basketball and Volleyball   | 2/3 hr. | Fall, Spring |
| 131 Basketball and Volleyball   | 1 hr.   | Fall, Spring |
| Credit will not be given for both 130 and 131.                        |         |              |
| 200 Tennis  | 1/3 hr. | Fall, Spring |
| 201 Tennis  | 2/3 hr. | Fall, Spring |
| 202 Golf  | 2/3 hr. | Fall, Spring |
| Practice of form for the various shots, with some work on the course. |         |              |
| 203 Golf  | 1 hr.   | Fall, Spring |
| Practice of form for the various shots, with some work on the course. |         |              |
| Credit will not be given for both 202 and 203.                        |         |              |

*School of Education*

204 Archery 2/3 hr. Fall, Spring

205 Archery 1 hr. Fall, Spring

Credit will not be given for both 204 and 205.

206 Badminton 2/3 hr. Fall, Spring

207 Badminton 1 hr. Fall, Spring

Credit will not be given for both 206 and 207.

213 Bowling 2/3 hr. Fall, Spring

215 Bowling 1 hr. Fall, Spring

Credit will not be given for both 213 and 215.

240 Rural School Physical Education 2/3 hr. Spring

Indoor and outdoor programs for mixed age groups. Ideas for track meets, picnics, play days, holiday programs, and student leadership systems.

241 Physical Education and Recreation for Teachers 2 hrs.

This course is open only to teachers. Topics included in the course are: program planning, making of games, equipment, accident prevention, simple first aid and body mechanics. Practice in games, stunts, rhythms, and recreational activities will be included. Offered by extension only.

340 Physical Education for the Classroom Teacher 2/3 hr. Fall, Spring

A study of the physical, mental, and social nature of children in the early elementary group and of activities suited to their needs.

Courses Giving Academic Credit: (These credits may be used as academic electives, but not to satisfy any part of the general physical education requirement.)

\*150 First Aid 2 hrs. Fall, Spring

\*242 Health Education for Elementary Schools 2 hrs. Fall, Spring

\*243 Health Education for Secondary Schools 2 hrs. Fall, Spring

### **COURSES INTENDED PRIMARILY FOR PHYSICAL EDUCATION MAJORS AND MINORS\*\***

150 First Aid 2 hrs. Fall, Spring

The standard course in first-aid techniques leading to the Red Cross certificate.

180 Physical Education Theory and Practice 2 hrs. Fall

Body mechanics, swimming, folk dance, modern dance, field hockey, volleyball and basketball.

\*These courses count as electives with academic credit — They may not be used toward completion of the 4 hour general Physical Education requirement.

\*\*Students who are neither majoring nor minoring in Physical Education may elect courses from this group with consent of the departmental advisor.

- 181 Physical Education Theory and Practice** 2 hrs. Spring  
Tennis, swimming, folk dance, modern dance, basketball, and softball.
- 242 Health Education in Elementary Schools** 2 hrs. Fall, Spring  
In this course the fundamental scientific principles of healthful living are developed through a study of school health problems. An effort is made to make prospective teachers aware of modern methods and materials useful in helping school children solve their health problems.
- 243 Health Education in Secondary Schools** 2 hrs. Fall, Spring  
This course is similar to course 242, with emphasis on health problems of the secondary school.
- 245 Elementary School Physical Education** 2 hrs.  
Concerned with the play interests, needs, and characteristics of children at the elementary-school level. An analysis of activities in terms of these needs.
- 246 Elementary School Physical Education** 2 hrs.  
Practice in physical education activities suitable for the elementary grades with opportunities for members of the group to teach the activities.
- 247 Secondary School Physical Education** 2 hrs. Fall  
A study of the physical education program of high school girls with opportunities for participation in teaching.
- 248 Secondary School Physical Education** 1 hr. Spring  
A continuation of course 247. Apparatus work, calisthenics, stunts, testing, tournaments, track and field, and tumbling are included.
- 270 Camping Education** 4 hrs. Spring, Summer  
This course consists of two parts, the first part to be taught on the campus twice a week for one semester, the second part to be four weeks of field work at a camp. Some of the topics to be considered are: the history and scope of camping, camping in education, camp standards, problems and personnel. Practice will be provided in skill and techniques for camp counselling. The field work will be done in a camp selected by the department where the student will be a counselor with continued guidance by a camp director. Not offered in 1959-60.
- 276 Community Recreation, Scouting, and Camp Fire** 2 hrs. Fall  
The study of the organization and administration of community play.
- 280 Physical Education Theory and Practice** 2 hrs. Fall  
Square dance, modern dance, basketball, volleyball, soccer and swimming.
- 281 Physical Education Theory and Practice** 2 hrs. Spring  
Social dance, modern dance, basketball, tennis, softball, and swimming.

**350 Applied Anatomy 2 hrs. Fall**

Analysis of the mechanics of bodily movement. A study is made of the location and action of the large muscles in developmental activities and exercises. Prerequisite: Anatomy 216, Psychology 217.

**351 Corrective and Adapted Physical Education 3 hrs. Spring**

The study of preventive as well as prescribed exercises for remedial defects in case of curvature and physical abnormalities. Laboratory practice will be included. Prerequisite: Anatomy 216, Physiology 217, Applied Anatomy 350.

**360 History and Principles of Physical Education 3 hrs. Fall**

A brief historical survey of physical education. In addition, a study is made of the principles of physical education and of the types of programs that develop through their application.

**380 Physical Education Theory and Practice 2 hrs. Fall**

Individual and team sports, dancing and advanced swimming.

**381 Physical Education Theory and Practice 2 hrs. Spring**

Continuation of the activities of 380 with opportunities to teach dance and to officiate in sports.

**480 Physical Education Theory and Practice 2 hrs. Fall**

Archery and golf. Advanced work in sports and dance with opportunities for teaching and officiation.

## RURAL LIFE AND EDUCATION

Wm. McKinley Robinson

James O. Ansel

Either elementary or secondary education degrees may be earned. The Rural Elementary Curriculum (two-year) leading to the State Limited Certificate is the first two years of Rural Elementary Degree Curriculum, and may be applied without loss of credit on the Rural Secondary or other Education Degree Curricula. The State Limited Certificate will not be issued after June 30, 1960.

Students who major (24 hours) or minor (15 hours) in Rural Life and Education are required to have Curriculum 100 and Rural School Administration 305. Under the guidance of the departmental advisor the remaining courses are selected to meet the needs of the individual student from among the following or their equivalents:

Rural Sociology 220, Rural Economics 230, Rural Life (Seminar) 424 or 425, Rural School Supervision (Seminar) 408 or 409 Special Problems of Community Schools (Seminar) 411; Introduction to Special Education 331, Introduction to Mental Hygiene 381, Speech Correction 252, Education Therapy in Reading 587, Audio-Visual Education 348, Introduction to Guidance Services 580; and one or more courses in Vocational Education such as

Rural Practical Arts 104, Family Foods 116, Consumer Problems 154, Clothing 200, Everyday Nutrition 212, Home Furnishings 250, Marriage and Family Relations 354, Consumer Buying 516, Housing 554.

## **RURAL EDUCATION**

### **100 Curriculum 3 hrs. Fall, Spring**

A study of the objectives of education as related to rural children and rural needs, and teaching practices leading toward these objectives. Students have a wide range of experience in observation and in the examination and development of materials suitable for rural schools.

### **202 Introduction to Directed Teaching 3 hrs. Fall, Spring**

A study of the general principles underlying good teaching and management in the various types of rural schools. Group and individual observation and participation opportunities on and off campus are provided.

### **203 Directed Teaching 4 or 5 hrs. Fall, Spring**

Directed teaching is done in the Hurd three-teacher school and other designated rural schools of various types in the counties of the service area of the university. Selected students may meet requirements in six-week periods of directed off-campus community participation and teaching.

### **305 Rural School Administration 3 hrs. Spring**

The community school; school district reorganization; support and control of education; the functions of the board of education, county superintendent, and state department of public instruction; school buildings, equipment and supplies; professional ethics; professional organizations; the PTA, public relations and interpretation; school law; and similar topics are studied in the course.

### **408 Rural School Supervision (Seminar) 2 hrs. Fall**

Planned for supervisors, principals and superintendents. Discussion and individual reports on curriculum, teaching, in-service education, orienting the new teacher, and other problems of supervision for any type of rural school are included. Prerequisite: consent of instructor.

### **409 Rural School Supervision (Seminar) 2 hrs. Spring**

Continuation of 408. Study of individual and group problems pertaining to supervisory and related administrative demands in rural schools. Field work is encouraged. Prerequisite: consent of instructor.

### **411 Special Problems of Community Schools (Seminar) 2 hrs. Spring**

Planned for teachers, principals and superintendents, supplementing Rural School Administration 305. Topics considered are the aims and functions of the school as related to the rural community, surveys, location and planning of buildings, finance, transportation, selection of teachers, salary and tenure, extra-curricular activities, the PTA, adult education, etc. Field work is encouraged. Prerequisite: consent of instructor.

**RURAL SOCIAL SCIENCE****220 Rural Sociology****3 hrs. Fall, Spring**

Study of life in the rural environment—local, regional and worldwide, including cultural factors; population trends; impact of industrialization; family, village, community; social institutions, agencies and organizations; educational, recreational, cultural, religious, health and governmental facilities. Current magazines and pamphlets supplement the textbooks.

**230 Rural Economics****3 hrs. Fall**

Fundamental economic principles are considered in terms of rural conditions—local, national and international. Economic interpretation is given topics found in the elementary and secondary school curricula—conservation, insurance, consumer education, cooperatives, agricultural extension services, etc.

**424 Rural Life (Seminar)****2 hrs. Fall**

Critical study of recent books in rural social life, with emphasis upon training for leadership. Supplementary references include research studies. Special problems are selected for study by each student. Prerequisite: consent of instructor.

**425 Rural Life (Seminar)****2 hrs. Spring**

Consideration is given individual problems related to social aspects of school and community life, members of the class devising forms and schedules for a study, and analyzing research studies and techniques involving planning for various services and agencies. Field work is encouraged. Prerequisite: consent of instructor.



# *School of Liberal Arts and Sciences*

**GERALD OSBORN,  
Dean**

**Departments:**

**Art  
Basic Studies  
Biology  
Chemistry  
Economics  
English  
Geography  
History  
Languages  
Mathematics  
Music  
Philosophy and Religion  
Physics  
Political Science  
Psychology  
Sociology  
Speech**



The School of Liberal Arts and Sciences is composed of five divisions:

- Basic Studies: Offerings in the areas of English, Natural Sciences, Humanities, and Social Sciences are included in this division.
- Fine Arts: The Departments of Music and Art are in this division.
- Language and Literature: This division includes the English, Languages, Philosophy and Religion, and Speech Departments.
- Science and Mathematics: This division is composed of the following departments: Biology, Chemistry, Geography, Mathematics, Physics and Psychology.
- Social Science: The social science division is composed of the following departments: Economics, History, Political Science and Sociology.

General objective: The School of Liberal Arts and Sciences offers a variety of subjects that combine to develop a student who will be at home in the world of ideas, and whose experience of living will be deepened by an understanding of his cultural heritage. It aims to offer him training in thinking objectively, critically, and creatively. Its offerings serve not only the special student of the sciences and humanities but also provide a background of liberal education for students in the other schools of the university and for those in the pre-professional courses.

## I. DEGREE CURRICULA

### THE GENERAL CURRICULUM

#### B.A. or B.S. Degree

In this curriculum a student may satisfy the requirements for pre-professional work. If 124 hours are completed in this program the student will be eligible for a degree of Bachelor of Arts or Bachelor of Science.

#### A. General Education Requirements.

Communication Area	6-8 hours
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Communication 114, 115 (8 hours) or

College Writing 116, 117 (6 hours)

Science Area	8 hours
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Biological Science 107 (4 hours)

Human Geography 105 (4 hours)

Physical Science 108, 109 (4 or 8 hours)

◀ The West Campus is the new center of university activities, and the scene of most classes for the School of Liberal Arts and Sciences.

*School of Liberal Arts and Sciences*

- |   |         |
|---|---------|
| Social Science Area   | 8 hours |
| Foundations of Western Civilization 100, 101<br>(8 hours) or    |         |
| Man and Society 102, 103 (8 hours)                              |         |
| Humanities Area   | 6 hours |
| Humanities 220, 221 (6 hours) or                                |         |
| Humanities 222, 223 (6 hours)                                   |         |
| (See counselors for alternative courses temporarily permitted.) |         |
- B. Eight hours additional work (10, if a student took College Writing) must be elected from non-professional courses marked by an asterisk in the Division of Basic Studies and the Departments of Art and Music, or from any non-professional courses in the Divisions of Language and Literature, Social Sciences, and Science and Mathematics. 8-10 hours
- C. Course in Government in accordance with Act 106, Public Acts of 1954 3 hours
- D. Physical Education 4 hours
- E. Courses to complete a major, minor and electives to make a total of 124 hours

**LIBERAL ARTS CURRICULUM****B.A. Degree**

- A. One hundred hours' work in the School of Liberal Arts and Sciences.
- B. The regular Basic Studies requirements.
- C. Six (6) hours in each of the three divisions of Science and Mathematics, Language and Literature, and Social Science, and six hours selected from those courses marked by an asterisk in the Division of Fine Arts.
- D. Thirty hours of work in 300, 400 and 500 courses.
- E. Four hours of intermediate work in a foreign language, or successful completion of a qualifying examination.
- F. Six hours of mathematics (or a high school preparation of two years of algebra, geometry, and/or trigonometry).
- G. Course in Government in accordance with Act 106, Public Acts of 1954.
- H. Courses to complete a major, minor and electives to make a total of 124 hours.

**MEDICAL TECHNOLOGY**

A Bachelor of Science degree is awarded in the field of Medical Technology on completion of the following series of courses and a one-year internship in Medical Technology at a hospital affiliated with Western Michigan University. The curriculum fulfills the minimum requirements of the American Society of Clinical Pathologists as well as their recommendations for a strong program. A major is allowed in Medical Technology with 30 hours credit for the year of internship. This credit is only allowed if the internship is preceded by the required work in Chemistry and Biology, and is taken at an affiliated hospital.

Tuition must be paid during the year of internship and grades for the work completed during that year are recorded on the student's record.

At the completion of the course, the registry examination must be passed to become a Registered Medical Technologist.

**Medical Technology Curriculum**

First Year	S.H.	Second Year	S.H.
Biology 100	4	Qual. and Quant. 220, 222	8
College Writing 116, 117	6	Bacteriology 312, 313	8
Chemistry 100, 101, or 102, 103	8	Gov't. 202, 204 or 200	3
Man and Society 102, 103	8	Humanities 220, 221	6
Phys. Ed.	1- $\frac{1}{3}$	Phys. Ed.	1- $\frac{1}{3}$
Physiology 217	4	Electives	5
Third Year	S.H.	Fourth Year	S.H.
Physics 110, 111	4	Medical Tech. 435	30
Zoology 241	4		
Organic Chem. 360	4		
Biochem. 551, 552, 553	4		
Electives	14		
Phys. Ed.	1- $\frac{1}{3}$		
To total at least 94 Semester Hours.			

Recommended electives: Mathematics, Psychology, Parasites and Parasitism 551, Histology 341.

**MUSIC**

The Bachelor of Music Degree without the teaching certificate is offered with the following majors: composition, instrumental music, voice. For complete curricular details, ask for Music Supplement Catalog.

**MUSIC THERAPY CURRICULUM**

B.M. Degree: Major-Music Therapy, Minor-Theory, Minor-Applied Music

First Year	S.H.	Second Year	S.H.
Applied Music (Piano)	4	Applied Music (Piano)	4
Freshman Theory 160, 161	8	Sophomore Theory 260, 261	8
Communication 114, 115	8	Man & Society 102	4
Physical Science 108	4	Psychology 200	3
Biological Science 107	4	Psychology of Adolescence 270	3
*Physical Education	2	Comparative Arts 231	4
†Large Ensemble (Vocal or Inst.)	2	Recreational Music 290	2
—	—	Introduction to Mus. Therapy 281	2
	32	*Physical Education	2
		†Large Ensemble (Vocal or Inst.)	2
		—	—
			34
Third Year	S.H.	Fourth Year	S.H.
Applied Music (Organ & Voice)	4	**Applied Music	4
Music History & Lit. 370, 371	8	Mus. Therapy Methods & Materials 480	2
Motivational Aspects of Music	2	Psychology of Music Ed. 543	2
Influ. of Music on Behavior 382, 383	4	String Class 128	1
Psychiatric Lectures 322	2	Percussion Class 130	1
Choral Conducting 330	1	Woodwind Class 126	1
Instrumental Conducting 331	1	Political Science 200	3
Music Arranging 366	2	Style & Structure 364	2
Brass Class 124	1	Contemporary Music Lit. 365	2
Abnormal Psychology 322	3	Electives	9
Marriage & Family 340	3	†Large Ensemble (Vocal or Inst.)	2
†Large Ensemble (Vocal or Inst.)	2	—	—
—	—		29
	33		

\*The student should select all the various types of dancing courses offered.

†The student should participate in as many different types of Large Ensemble groups as possible. Participation in the Music Ed. Band and Orchestra is strongly recommended.

\*\*May be in any field of Applied Music if the student has demonstrated piano skill through level H 49.

Other suggested electives: Kinesiology, Speech Correction, Dramatics, Special Education, Acoustics, Additional Psychology

**INTERNSHIP REQUIREMENT**

A minimum of six month's clinical training through resident internship in an approved neuropsychiatric hospital with an established music program is required. Students planning to work with mentally defective or handicapped children should spend two months of this internship in an appropriate institution.

**SOCIAL WORK**

A.B. or B.S. Degree, with Certificate in Social Work

This curriculum is designed to prepare students for the lower levels of social work positions, and for the civil service examinations required for employment in many public agencies. It also provides basic pre-professional education for graduate training in social work. Graduates who continue in social work as a profession should plan to take, as early in their career as possible, one or two years of professional social work training at the graduate level.

Satisfactory completion of the courses in this curriculum is required for the Certificate in Social Work. In addition the student must take whatever courses are needed to satisfy the group and general education requirements for the A.B. or B.S. degree.

First Year	S.H.	Second Year	S.H.
Communication 114, 115	8	General Psych. 200	3
Biological Sci. 107	4	Psych. of Personality 220 or	3
Human Geography 105	4	Intro. to Mental Hygiene 381 or 3	
West. Civil. 100, 101	8	Human Growth 250	3
Physical Ed.	2	Economics of Consumption 230 or	
Electives	6	Prin. of Economics 201	3
		Principles of Sociology 200	3
		Modern Social Problems 210	3
		Social Psych. 220	3
		Fields of Social Work 260	2
		Physical Ed.	2
		Humanities 220, 221	6
		Electives	2
<b>Third and Fourth Year</b>			
Community Hygiene 212 or		Family & Child Adjust. 362	3
Healthful Living 111	3-2	Public Welfare 364 or	3
American Nat'l. Gov't. 202	3	Welfare Organ. 368	2
State & Local Gov't. 204	3	Prin. of Social Wk. 360	3
A minimum of 8 hours of adv.		Orientation to Field Work 462	2
sociology in addition to the		Supervised Field Wk. 463	3
courses listed below, selected		Electives	28-32
with the advice and approval			
of the departmental advisor			
Intro. to Social Research 380	2		
Social Research Projects 381	2		

The required courses in this curriculum provide for a social science major of 34 or 37 hours and a minor in social work of 17 or 18 hours. Some 50 hours of elective courses are allowed. These electives should be used primarily to fulfill the requirements for the general degree and to strengthen the general education of the student. To meet the need of certain students for special skill, however, some elections from such tool subjects as the following may well be considered: Elementary Typewriting 182, Home Management 350, Community Recreation, Scouting and Campfire 276, Laboratory Psychological Testing 302, Clinical Psychology 309 and Labor Problems.

## II. PRE-PROFESSIONAL CURRICULA

Every professional school has prescribed the nature and amount of the academic work to be completed as a prerequisite to the professional training for a particular vocation. Four years of higher education are generally required by most professional schools for entrance. Western Michigan University is able to offer its students courses of study that meet the requirements for this pre-professional training. It should be noted, however, that the courses outlined are only suggested plans to illustrate in general the kinds of programs that pre-professional students should follow. **IN EVERY CASE THE STUDENT SHOULD PLAN HIS COURSE ACCORDING TO THE REQUIREMENTS OF THE SCHOOL TO WHICH HE PLANS TO TRANSFER FOR HIS PROFESSIONAL TRAINING.** It cannot be emphasized too strongly that the student should exercise care to see to it that the specific requirements of a particular school will have been met.

### CHRISTIAN MINISTRY

The American Association of Theological Schools has issued a statement on pre-seminary studies which outlines an undergraduate program approved by most major American seminaries. The following program includes every basic recommendation contained in this statement. In addition, however, a student who wishes to do his pre-theological studies at Western should obtain a catalog of the seminary of his choice to help him plan his course of study, especially during his Junior and Senior years. There may be specific requirements which he must meet in order to be admitted to that particular seminary.

First Year	S.H.	Second Year	S.H.
College Writing 116, 117	6	Humanities 222, 223	6
General Lit. 112, 113	6	German, French, or Latin	8
Physical Science 108	4	Religion 200	3
Biological Science 107	4	Philosophy (Logic)	3
Western Civ. 100, 101	8	Philosophy (Ethics)	3
Phys. Ed.	2	Introductory courses in major field (the Association considers a major in English or History most desirable)	
Third Year	S.H.	Fourth Year	S.H.
German, French, or Latin	6 or 8	Complete requirements of the major, and include electives in at least two of the following fields: Economics, Sociology, Psychology, Political Science, Education.	
History 554, 555	3		
Philosophy 360, 361	6		
English or Speech	6		
Pol. Sci. 200	3		



**DENTISTRY**

Although the Dental Aptitude Test is required of all applicants to any dental school, the amount and kind of academic work needed for admission varies. Therefore, a student planning to do his pre-dental work at Western Michigan University should have a catalog from the dental school of his choice and plan his work at Western to meet the requirements of that particular school.

The following program will in most instances satisfy dental school requirements:

First Year	S.H.	Second Year	S.H.
College Writing 116, 117	6	Physics 110, 111	8
Biology 100, 101	8	Organic Chem. 360, 361	8
Chem. 100, 101 or 102, 103	8	Phys. Ed. 204, 205 or R.O.T.C.	2-4
Man and Society 102, 103 or Western Civil. 100, 101	8	Language or Humanities	6-8
Phys. Ed. 104, 105 or R.O.T.C.	2-4	Electives	6-8
Trig. (If none in high school)	3		
Third Year	S.H.		
Zoology	8		
Psychology	6		
Electives (complete minors)	6		

**ENGINEERING**

First Year	S.H.		S.H.
College Writing 116, 117	6	Gen. Chem. 100, 101 or 102, 103	8
or Communication 114, 115	8	Mech. and Mach. Drwg. 221	3
Trig. and College Alg. 122		Descriptive Geometry 222	3
College Alg. and Anal. Geom.		Physical Ed.	1
123 or College Alg. and Anal.		Electives	0-3
Geom. 124, 125	8-10		

**Chemical and Metallurgical**

Second Year	S.H.	Third Year	S.H.
Calculus 222, 223	10	Modern Economics 502 and Accounting 210	6
General College Physics 112, 113	10	Organic Chemistry 360, 361	8
Eng. Materials 210	3	General Speech 100	3
Qual. Anal. 220; Quant. Anal. 222	8	American Government 200	3
Metal Processing 250	2	Labor Problems 510, 511	
Physical Ed.	1	or Industrial Sociology 374	2
		Humanities 220, 221 or 222, 223 or alternatives	6
		Electives	3-4

*School of Liberal Arts and Sciences***Aeronautical, Civil, Electrical, Marine and Mechanical**

Second Year	S.H.	Third Year	S.H.
Calculus 222, 223	10	Prin. of Economics 200, 201	6
General College Physics 112, 113	10	Differential Equations 306	3
Eng. Material 210	3	or Geology 230, 231	8
Metal Processing 250	2	Statics 320	
General Speech 100	3	and Theoretical Mech. 325	6
Physical Ed.	1	Labor Problems 510	2
		American Govt. 200	3
		Humanities 220, 221 or 222, 223	6
		Electives	5-6

- Notes: 1. Differential Equations 306 is required in Aeronautical, Electrical, Marine and Mechanical Engineering.  
 2. Geology 230 and 231 should be taken in the third year of Civil Engineering Curriculum.  
 3. Civil Engineering requires surveying (Math. 200).

**FORESTRY**

The following is a two-year program approved by Michigan State University:

First Year	S.H.	Second Year	S.H.
College Writing 116, 117	6	Chemistry 102, 103	8
Physical Sci. 108	4	Agronomy 220	3
Western Civil. 100, 101	8	Botany 220, 221	8
Math.	6, 8 or 10	Man & Society 102, 103	8
Biological Sci. 107	4	Comparative Arts 231 or	
Phys. Ed. or R.O.T.C.	2 or 4	Humanities	3-4
Speech 100 should be taken if a		Phys. Ed. or R.O.T.C.	2 or 4
3-hour math. course is taken.			

Students planning to transfer to the University of Michigan for work in forestry at the end of the second year must plan on attending the University's summer camp before beginning work on the Ann Arbor campus.

First Year	S.H.	Second Year	S.H.
College Writing 116, 117 or	6	Geology 230	4
Communication 114, 115	8	Physics 112	5
General Chem. 100, 101	8	Soils 320	3
West. Civil. 100, 101 or	8	Economics 200, 201	6
Man & Society 102, 103	8	Surveying 200	3
Gen. Biology 100, 101	8	Botany 220	4
Trig. 121	3	Botany 224	2

**JOURNALISM**

Most schools of journalism have very definite requirements for admission. A student wishing to do his pre-journalism work at Western Michigan University should plan his course of study according to the requirements for the particular school of his choice. The following is only a suggested program. Many schools require work in a foreign language in addition.

First Year	S.H.	Second Year	S.H.
College Writing 116, 117	6	Journalism 264, 265	6
Speech 100	3	U. S. Hist. 210, 211	6
Phy. Sci. 108	4	Man & Society 102, 103	8
Western Civil. 100, 101	8	Comparative Arts 231	
Biol. Sci. 107	4	or Humanities	3-4
Phys. Ed.	1½ or 2	Phys. Ed.	1½ or 2
Electives	3 or 4	Electives	3 or 4

**LAW**

An increasing number of law schools are requiring a degree before admission. Many of these schools also require applicants to take the Law School Admission Test. A student planning to go to a law school should plan his course at Western Michigan University with his counselor according to the requirements of the school of his choice.

Below is a suggested program covering three years of work:

First Year	S.H.	Second Year	S.H.
College Writing 116, 117	6	English Lit.	6
Math. or	8-10	History 210, 211	6
Lab. Sci.	8	Prin. of Econ. 200, 201	6
Western Civil. 100, 101	8	Acctg. 210, 211	6
Foreign Lang.	8	Gen. Psych. 200	3
Phy. Ed.	1	Phy. Ed.	1
Third Year	S.H.		
Amer. Nat'l & St. Govt. 202, 204	6	Elective (to be selected from	1-5
Prin. of Soc. 200	3	Speech 106; Money & Credit	
Modern Social Prob. 210	3	320, 321; Language or Lit. or	
Public Finance 524	3	Lab. Sci.)	

**MEDICINE**

Many medical schools accept students with three years of college work. Others require that the student finish four years before entering. The Medical College Admission Test is required of all applicants to medical schools.

A student planning to do his pre-medical work at Western Michigan University should obtain catalogs from three medical schools of his choice and should plan his college work to meet their requirements. A special counselor for those enrolled in pre-medical work will assist the student in planning his course of study.

First Year	S.H.	Second Year	S.H.
College Writing 116, 117	6	Qual. & Quant. 220, 222	8
Biology 100, 101	8	Physics 110, 111	8
Chem. 100, 101 or 102, 103	8	Lang. or Humanities	6-8
Lang.	8	Man & Society 102, 103	8
Phy. Ed. or R.O.T.C.		Phy. Ed. or R.O.T.C.	

Third Year	S.H.	Summer	S.H.
Zoology 240, 241	8	Emb. 343 or Histology 341	
Organic Chemistry 360, 361	8		
Electives in Soc. Sci.	6		
Electives			

**Fourth Year** **S.H.**  
 (If four-year pre-med is taken then omit summer session above.)  
 Complete major and minor requirements and other degree requirements. Take electives in Art, Music, Literature, Speech and Social Sciences.

**MORTUARY SCIENCE**

The first two years of a three-year program in Mortuary Science are called the pre-professional part of the program. To complete the requirements for this, a student must earn 60 hours of credit. It is strongly recommended that his course work include the following: English (6 hours), General Chemistry (8 hours), Organic Chemistry (3 hours), Social Sciences, including geography, history, government, economics, sociology and philosophy, (8 hours), Zoology or Biology (4 hours), Psychology (2 or 3 hours), Mathematics or Accounting (4 hours).

The Michigan Board of Examiners of Mortuary Science requires completion of certain group requirements which the student should check thoroughly.

Suggested First Year	S.H.		S.H.
College Writing 116, 117	6	Biology 100	4
Chem. 100, 101 or 102, 103	8	Small Bus. Mgmt. 250	3
Man & Society 102, 103 or	8	Phys. Ed.	2
West. Civ. 100, 101	8		

## NURSING

Pre-professional preparation for transfer to a college of nursing may be taken at Western Michigan University for one or two academic years. Most universities offering a correlated program leading to a B.S. degree and R.N. accept transfer students from an accredited institution upon the completion of specified requirements.

Students should plan with care, in cooperation with the pre-nursing counselor, to meet the admission requirements of the school they wish to attend.

A typical one-year pre-professional required program:	S.H.	A typical two-year pre-professional required program:	S.H.
College Writing 116, 117 or		College Writing 116, 117 or	
Communication 114, 115	6-8	Communication 114, 115	6-8
Chemistry 100, 101 or 102, 103	8	Chemistry 100, 101 or 102, 103	8
Biology 100, 101	4-8	Biology 100, 101	8
Psych. 200	3	Zoology 240, 241	4-8
Social Science	8	Psychology 200	3
Sociology 200	3	Social Studies	14-18
Phys. Education	Each sem.	Phys. Education	Each sem.
Electives (to bring total to at least 30 semester hours)		Humanities	6
		Electives (to bring total to at least 60 semester hours).	

Bronson Methodist Hospital School of Nursing students receive pre-clinical instruction at Western in special courses arranged for their particular needs. These courses are given University credit but their applicability to curricula or graduation requirements here is determined by departmental evaluation.

## PHARMACY

A student transferring to a college of pharmacy is required to be in residence at that school for a minimum of six semesters regardless of how much previous college training he may have had. Therefore, the pre-pharmacy course of study at Western Michigan consists of one year's work.

First Year	S.H.		S.H.
Chemistry 100, 101 or 102, 103	8	Electives (Speech 100 recommended)	3
College Writing 116, 117	6	Phys. Ed. or R.O.T.C.	2 or 4
Biology 100, 101	8		
Math. (if Trig. was not taken in high school)	3 or 4		

### III. DESCRIPTION OF COURSES

#### DIVISION OF BASIC STUDIES

Robert M. Limpus, Director

The Division of Basic Studies is responsible for coordinating and administering the basic courses in the General Education program.

Every student should take Communication or College Writing in the freshman year.

In Science the student must have a total of 8 hours. The usual combination is Biological Science 102 and Human Geography 105A, or Physical Science 100A and B. The choice should depend upon the individual's background and intended field of specialization. If a student plans to major and has considerable background in one area, he should choose the one in which his background is less adequate.

In the Social Science area a student must take either Foundations of Western Civilization or Man and Society. These are recommended for the freshman year.

The two Humanities sequences, Humanities 220 & 221, 222 & 223, are recommended for the sophomore or junior year.

#### COMMUNICATION:

##### 114 Communication

4 hrs. Fall, Spring

This course attempts to help the student to understand the nature of language, evaluate communication as inter-action between the individual and other members of society and acquire skill in using the communication tools. Lectures, readings, tape-recordings, films and other devices are used to motivate group discussion, informal talks, and written exercises. Skills of primary and secondary research are emphasized; one research paper is required.

##### 115 Communication

4 hrs. Spring, Fall

A continuation of 114. Prerequisite 114 or 116.

##### 116 College Writing

3 hrs. Fall, Spring

The course is planned to aid the student in developing greater facility in the use of language, with special emphasis on reading and writing.

##### 117 College Writing

3 hrs. Fall, Spring

A continuation of 116. Prerequisite 116 or 114. The critical approach is given special emphasis.

**SCIENCE:****\*105 Human Geography****4 hrs. Fall, Spring**

Designed to build an understanding of major human activities in relation to environmental factors throughout the world. Consideration is given to effects of climate, soil, minerals, topography, and the biotic environment on occupational pursuits of people, transportation and communication, density of population and growth of cities.

**\*107 Biological Science****4 hrs. Fall, Spring**

A course designed to present basic biological principles and to give the student an understanding of the operation of the world of life. It fulfills the general education requirement for biological science.

**\*108 Physical Science****4 hrs. Fall, Spring**

The major objective of the course is to prepare the student for intelligent living in the nuclear age. The course is designed for students who are not planning to specialize in any of the physical sciences. Physical Science 108 with 109 are planned to provide a scientific background for understanding our rapidly changing culture.

**109 Physical Science****4 hrs. Spring**

This course continues with a more complete treatment of the major topics in 108. New topics from astronomy, physics, and chemistry are introduced. This course emphasizes the applications of physical science principles to broad problems of social and industrial significance. Prerequisite: Physical Science 108.

**SOCIAL SCIENCE:****\*100 Foundations of Western Civilization****4 hrs. Fall, Spring**

This course is designed to give the student an understanding and an appreciation of contemporary institutions and culture through a study of their origins and development. It is essentially a history of culture which shows how the present is a product of the past and how peoples widely separated in space and time have contributed to the present.

**101 Foundations of Western Civilization****4 hrs. Spring, Fall**

A continuation, from the seventeenth century, of 100. While this course deals primarily with the West, it surveys important developments in all parts of the world. It emphasizes the last half-century. Prerequisite: 100.

**\*102 Man and Society****4 hrs. Fall, Spring**

The emphasis is on understanding basic ideas in the social sciences and on acquiring a mature ability to analyze and appreciate the individual in society. The student is introduced to such matters as: the nature of man and the purpose and meaning of human existence; the ways in which personality and society are mutually interdependent; the ways men work, the

reasons why they work and the effect of such economic factors on the composition and political complexion of society; the reasons for and types of communities into which men form themselves.

**\*103 Man and Society**

4 hrs. Spring, Fall

A continuation of 102.

## **HUMANITIES:**

**220 Humanities**

3 hrs. Fall

A study of the creative life of man through an examination of the climactic periods during the Greco-Roman and medieval times. The course is organized in terms of the expressions of the purposes of life and values of men through the art, literature, philosophy and theology of those periods.

**221 Humanities**

3 hrs. Spring

This course is a continuation of 220 and is concerned with the Renaissance, the age of enlightenment and the contemporary period.

**222 Humanities**

3 hrs. Fall

This course explores esthetic expression in painting, music, and literature, and acquaints students with principles of composition and techniques of analysis in all three arts.

**223 Humanities**

3 hrs. Spring

This course makes use of a selection of great writings and works of art to stimulate the student to examine human values.



# DIVISION OF FINE ARTS

Elwyn F. Carter, Chairman

The Division includes the Departments of Art and Music. The heads of the departments and the departmental counselors will advise students relative to requirements for majors or minors in these departments and concerning any special requirements set up by the departments. In certain cases, where a group major or minor is possible and advisable, the chairman of the Division should be consulted.

## ART

Harry S. Hefner, Head	Hazel I. Paden	Elizabeth Smutz
Marc F. Hansen	Stanley K. S. Phillips	Elaine L. Stevenson
John G. Kemper	Paul Robbert	

Many courses in the department are designed for students not particularly talented in art, but interested in finding a field of art in which they may do well. Suggested courses which require no prerequisite are 161, 163, 121, 111, 123, and 134, 135, 222, 231.

A teaching major in art consists of: 140, 161, 163, 222, 251, 261, 217, 232, 233, 351, 328, 347, 357, 361, 355 plus electives to total 40 hours.

In addition 541 (Ed. Credit) is required for art majors.

A general degree major in art consists of: 161, 163, 217, 251, 261, 232, 233, 351, 515, to total 25 hours.

A minor in art consists of: 161, 163, 134, 135, 140 and are electives to total 15 hours.

232 or two points of 231 may be substituted for 134 and 135.

**111 Lettering and Poster Making** **2 hrs. Spring**

Emphasis is on lettering and poster making for school and commercial use.

**121 Illustrative Handwork** **3 hrs. Fall, Spring**

An elementary craft course with manual problems related to interests in the primary grades.

**123 Industrial Art** **3 hrs. Fall, Spring**

A studio course in crafts, designed to meet the needs of groups with varied interests. Weaving, bookbinding, blockprinting, etc.

**134 Art Appreciation** **1 hr. Fall and Spring**

This course aims to develop aesthetic judgment. A brief survey of the history of painting, with special attention to modern painting, is given.

**135 Art Appreciation** **1 hr. Spring and Fall**

A brief survey of the history of sculpture, architecture, and minor arts is given. Prerequisite: 134.

**140 Learning Through Art****3 hrs. Fall, Spring**

This is a laboratory course designed to help classroom teachers recognize art as a vital factor in child growth. Discussions, films, demonstrations, examination of children's work, supply sources, classroom display, studio projects relating to all grade groups, and current teaching practices are a part of the course.

**161 Elementary Design****2 or 3 hrs. Fall, Spring**

A fundamental course in art developing design and color theory through problems of various media.

**163 Art Structure****3 hrs. Fall, Spring**

A course giving drawing experience, lettering, figure, color, and design.

**217 Commercial Art****3 hrs. Fall**

This course is designed to offer special work in the study of advertising art. Posters for school, for business activities, lettering, typography, packaging design, and other related subjects are done. Various techniques and media, as well as technical methods used in the reproduction of art work are discussed. Prerequisite: 161, 163.

**222 Ceramics****3 Credits Fall and Spring**

Basic course in the designing and building of Pottery—emphasis on casting, throwing, glazing, and firing techniques.

**223 Ceramics****2 Credits Fall and Spring**

Continuation of Ceramics 222, developing greater knowledge of advanced ceramic techniques. Prerequisite: 222.

**225 Handicraft****3 hrs. Spring and Fall**

Includes problems in metal, wood, and other materials. Emphasis on technique. Prerequisite: Art Structure 153, Industrial Art 133, or consent of instructor. A fee of two dollars will be charged for materials.

**231 Comparative Arts****4 hrs. Fall, Spring**

The course takes literature, music, and art and endeavors to point out to students the common core which permeates all the arts. Common expressions such as organization of form, rhythm, repetition, unity, harmony, and tonality are made meaningful through discussion and demonstration. Two hours of credit may be applied on a major or minor in any two of the three arts—Literature, Music or Art.

**232 History of Art****3 hrs. Fall**

Study of primitive, Egyptian, Chaldean, Greek, and Roman architecture, sculpture, and painting.

**233 History of Art****3 hrs. Spring**

Study of the art of the Renaissance in Europe and of modern art in Europe and America. Prerequisite: 232 or consent of instructor.

**251 Figure Drawing** 3 hrs. Spring, Fall

Anatomy of the human figure is studied. Rapid sketches, line drawings, and memory sketches are made, after which the work progresses from gesture lines, shadow edges, planning and contour drawing to finished drawings. Prerequisite: 163 or consent of instructor.

**253 Modeling** 3 hrs. Fall

Basic course in sculpture. Mediums are plaster, wood, metal, clay and stone. Prerequisite: 161 or consent.

**261 Art Composition** 3 hrs. Spring and Fall

Composing within a given space: emphasizing unity, spacing, distribution of dark and light; study of color harmony. Mediums used are show-card paints, charcoal, pen and ink. Prerequisite: 163, 161.

**263 Home Furnishing** 2 hrs.

A study of interior design and color, furniture past and present, experience in practical problems.

**265 Stage Design** 2 hrs.

A course for art and speech majors. Class makes practical use of knowledge of scene painting, lighting, and mechanics of staging.

**328 Jewelry** 3 hrs. Fall, Spring

Basic course in the designing and making of jewelry; study of basic techniques and processes—to include enameling.

**351 Oil Painting** 2 hrs. Spring

Continuation of Art Composition 261. Mediums are oil, and casein. Prerequisite: 161, 163, 261.

**355 Graphics** 2 hrs. Fall, Spring

Study of prints and print making, etching, wood-block, lithograph, and silk screen. Prerequisite: 151, 153, 261.

**361 Advanced Design** 3 hrs. Fall

Continuation of Elementary Design 161. Applied Art Problems. Prerequisite: 161, 163, 261.

**515 Advanced Commercial Art** 2 hrs. Fall

Emphasizes typographic layout, booklet design, letterheads, mailing pieces, packaging and display design and construction. Covers technical methods essential to commercial art. Prerequisite: Commercial Art, or equivalent.

**550 Painting (Water Color)** 2 hrs. Fall

Painting of still life and landscape, in the studio and outdoors. This course involves the study of composition, color value, and technique. Prerequisite: 161, 163, 261, or consent of instructor.

## MUSIC

Elwyn F. Carter, Head	Robert R. Fink	Holon Matthews
Sam B. Adams	Jack J. Frey	Leonard V. Meretta
Elmer R. Beloof	Tom R. Fulton	Charles E. Osborne
Margaret F. Beloof	Ethel M. Green	Peggy Ramstad
Owen L. Berger	Thomas C. Hardie	Robert Schieber
Arthur Birkby	James Hause	Dorothea S. Snyder
Russell W. Brown	Daniel A. Kyser	Julius Stulberg
Marcella Faustman		

The Department offers courses leading to the Bachelor of Music and Bachelor of Arts degrees. The Bachelor of Arts degree is defined on page 41 as to both purposes and requirements. The Bachelor of Music degree is different in that it is highly professional in its requirement aims and permits the student to do much more of his work in the field of music. Detailed information relative to the Bachelor of Music degree may be procured by writing for the Music Supplement Catalog.

Those students who want a music major with teaching certification should work for the Bachelor of Music degree.

Those students who want a music major without teaching certification may work for the Bachelor of Arts degree. Such music majors must complete 16 hours of Applied Music (through level 6 in their major performance field); Theory 160, 161; Theory 260, 261; Music History and Literature 370, 371; Style and Structure 364; and one semester of an advanced theory or music literature course.

Minors in music must complete Theory 160, 161, eight hours; a Methods and Materials course of three hours; Piano Class 120, 121 two hours; Conducting, either 331 or 330 one hour; plus an elective of one hour.

Credit from another institution in any branch of theory will be accepted only upon satisfactory completion of an examination covering the field for which the student desires transferred credit. All transferred credit is tentative and is conditioned upon the successful completion of a semester's work at Western Michigan. No credit hours exceeding the number granted for parallel work at Western Michigan will be accepted for transfer from another institution.

All full-time (12 s.h.) undergraduate music majors must attend thirty (30) recitals and/or concerts sponsored by WMU each year. If the student's recital attendance record is satisfactory, he will be excused during his senior year. In the case of the senior student who has failed to meet the yearly attendance requirements, the cumulative deficiency of the three-year period must be made up in the senior year. Exception to these regulations may not be made except by petition in advance to the faculty.

The University is a member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this catalog are in accordance with the published regulations of the National Association.

## MUSIC COURSES

## 120 Piano Class 1 hr. Fall

A course designed for students with little or no background in piano. Opportunity is provided for some individual instruction. Recommended to piano majors to gain a knowledge of piano class procedure and to elementary education majors.

## 121 Piano Class 1 hr. Spring

A continuation of 120.

## 122 Voice Class 1 hr. Fall

This course deals with the fundamental processes of breath control and tone production, provides some individual instruction and an opportunity to study standard song literature. Recommended to voice majors to gain a knowledge of voice class procedures and to candidates for certification as general supervisors to prepare for basic achievement examinations.

## 123 Voice Class 1 hr. Spring

A continuation of 122.

## 124 Brass Class (Cornet) 1 hr. Fall, Spring

Fundamentals of attack; breath control; formation of the embouchure. "Tune-a-Day," Herfurth. Solos from "Miniature Concert Series", by Goldman.

## 125 Brass Class (Mixed) 1 hr. Fall, Spring

The study of French horn, Trombone, Baritone, and Tuba, to the extent that the student can demonstrate a knowledge of the basic fundamentals of all four instruments. The study of a limited repertoire for these instruments.

## 126 Woodwind Class (Clarinet) 1 hr. Fall, Spring

Fundamentals of attack; breath control; formation of the embouchure. "The Study of the Clarinet," Stubbins. Selected solos.

## 127 Woodwind Class (Mixed) 1 hr. Fall, Spring

The study of oboe, flute, and bassoon, to the extent that the student can demonstrate a knowledge of the basic fundamentals of all three instruments. The study of a limited repertoire for these instruments.

## 128 String Class 1 hr. Fall

The study of a stringed instrument to the extent that the student can demonstrate a knowledge of the basic fundamentals on that instrument. The study of a limited repertoire for that instrument.

## 129 String Class 1 hr. Spring

A continuation of 128. Prerequisite: 128.

**130 Percussion Class****1 hr. Fall, Spring**

A survey of the requirements for a percussion player. The student is required to play in an acceptable manner at least one percussion instrument and to demonstrate a working knowledge of three others.

**131 English Diction and Song Literature****No credit. Fall**

Required of all students whose field of concentration is voice. English diction and song literature are studied as a class; opportunity is provided for solo performance.

**132 Italian Diction and Song Literature****No credit. Fall**

Required of all students whose concentration is voice. Italian diction and song literature are studied as a class, and opportunity is provided for solo performance.

**140 Music for Classroom Teachers****3 hrs. Fall**

This course is designed for the classroom teacher with or without previous music training. It deals with basic musical experiences, some work in sight-singing, music in general education, relationship of music to other subject areas, classroom problems in music education, e.g., listening, singing activities, place of performance, use of radio, and music in the movies. The song materials studied can later be used in directed teaching.

**141 Music for Classroom Teachers****3 hrs. Spring**

A continuation of 140.

**160 Freshman Theory****4 hrs. Fall**

This course is a closely integrated study of the construction and function of the language of music . . . through music reading; ear training and dictation; keyboard and written harmony; and composition, arrangement and analysis of musical material. The materials are drawn from vocal and instrumental music literature suitable for study. Topics of study include diatonic chords, modulation, non-harmonic tones, musical forms and harmonization.

**161 Freshman Theory****4 hrs. Spring**

A continuation of 160.

**\*170 Music Appreciation****2 hrs. Fall**

This course, primarily a listening one, is designed for students wishing a general cultural course to increase their knowledge and discrimination of music. Various types of music from the folk song and dance to the symphony, oratorio, and opera are presented and discussed. Concerts and outstanding radio programs are related to the course.

**\*171 Music Appreciation****2 hrs. Spring**

A continuation of 170.

**190 Accompanying****1 hr. Fall, Spring**

Supervised experience in accompanying vocal and instrumental music, both solo and ensemble. (This course may be repeated for credit not to exceed a total of four semester hours.)

**220 Advanced Piano Class****1 hr. Fall**

A continuation of 120, 121. Recommended to elementary education majors. Prerequisite: Piano Class 120, 121.

**221 Advanced Piano Class**

A continuation of 220.

**231 French Diction and Song Literature****No credit. Spring**

Required of all students whose field of concentration is voice. French diction and song literature are studied as a class, and opportunity is provided for solo performance.

**232 German Diction and Song Literature****No Credit. Spring**

Required of all students whose field of concentration is voice. German diction and song literature are studied as a class, and opportunity is provided for solo performance.

**233 Major Performance Literature****1 hr. Fall, Spring**

Required of applied music (except voice) majors for last two years. Literature for the major performance instrument is studied as a class, and opportunity is provided for solo performance. (This course may be repeated for credit not to exceed a total of four semester hours.)

**240 Elementary School Methods and Materials****3 hrs. Fall, Spring**

A study of the methods of teaching and an evaluation of the materials to be used in the singing, rhythmic, instrumental, creative, and listening activities of the basic music program in the elementary school.

**241 Rural School Music Methods and Materials****3 hrs. Fall, Spring**

This course consists of sight reading of unison songs, introduction to part singing, organization of music work in the school and the community. The importance and value of music in the life of school and community are emphasized; materials for the school music program, community singing, and recreation are considered.

**260 Sophomore Theory****4 hrs. Fall**

A continuation on an advanced level with chromatic chords, modulations, non-harmonic tones, styles of composition as used in choral and instrumental music literature being studied. Material is drawn from the standard vocal and instrumental repertoire.

**261 Sophomore Theory****4 hrs. Spring**

A continuation of 260.

**281 Introduction to Music Therapy** 2 hrs. Spring

Function of music in total therapeutic program. History of development of music in therapy. Study of qualifications of the therapist. Survey of disability areas using music. Prerequisite: Psychology 200.

**290 Recreational Music** 2 hrs. Fall

Function of music in a recreation program. Fundamentals of non-symphonic instruments. Techniques and materials to be used in leading group singing and other group music activities.

**330 Choral Conducting** 1 hr. Fall, Spring

A beginning course working in the field of choral music. Opportunity is provided to prepare choral works with respect to tone quality, range of nuance, phrasing, tempo and balance of parts.

**331 Instrumental Conducting** 1 hr. Fall, Spring

A continuation of 331. Application is made by use of easy literature for instrumental ensembles.

**340 Junior High School Methods and Materials** 3 hrs. Fall

A study of the place of music in the education of adolescent youth, correlating the vocal and instrumental aspects of music within the total school curriculum. Instrumentally, there will be evaluation of teaching methods of strings, brass, woodwind, and percussion and the organization of instrumental groups. Vocally, there will be study of the changing voice, voice testing and classification, vocal ensembles, and evaluation of suitable ensemble materials.

**341 Senior High School Methods and Materials** 3 hrs. Spring

A continuation of the Junior High School Methods course at the Senior High School level, with emphasis on the correlation of instrumental and vocal music and its place in the Senior High School curriculum.

**362 Composition** 2 hrs. Fall

Original work in composition, starting with the smaller forms in both the vocal and instrumental fields. Prerequisite: 260, 261.

**363 Composition** 2 hrs. Spring

A continuation of 362.

**364 Style and Structure** 2 hrs. Fall

A study of the finest musical compositions with particular reference to design. Tracing the development of musical form from the phrase through the sonata form. Particular emphasis on the eighteenth and nineteenth century composers. Prerequisite: 260, 261.

**365 Contemporary Music Literature** 2 hrs. Spring

Survey of contemporary music literature through listening. Some study of the chronological evolution of modern structure and harmony. Special emphasis on idiom, neo-classicism, polytonality, and atonality.



**366 Music Arranging** 2 hrs. Fall, Spring

A course designed to meet the needs of School Music Teachers. Emphasis is placed on the use of available resources for small instrumental and vocal groups and the problems of arranging music for them to use as performing units.

**\*370 Music History and Literature** 4 hrs. Fall

A survey of the growth of music from the earliest times including melody, rhythm, and harmony through the Medieval, Renaissance, and Baroque periods; choral, operatic, symphonic and chamber music development to 1750; the classics, romantic, and contemporary scenes, as well as the earlier periods, are supplemented with recordings of composers' work.

**\*371 Music History and Literature** 4 hrs. Spring

A continuation of 370.

**380 Motivational Aspects of Music** 2 hrs. Fall

The psychic and physiological effect of sound on the individual and systems of tonal relationships. The effect of music on personality and the consideration of music as a form of communication. The nature of musicality and its measurement. The nature of musical memory. The underlying bases for musical taste and for aesthetic experience in music. Prerequisite: Psychology 200.

**382 Influence of Music on Behavior** 2 hrs. Fall

Review of the relationship between musical effect and personality. The function of music in personality adjustment and development. A study of pertinent research methods by analysis and evaluation of published studies. A beginning on an original research project. Prerequisite: Consent of instructor.

**383 Influence of Music on Behavior** 2 hrs. Spring

Continuation of original research. Development of skills essential to research. An analytical survey of pertinent, recent publication. Prerequisite: Consent of instructor.

**442 Instrumental Organization and Administration in Public Schools** 2 hrs. Summer

Techniques of marching band, small and large instrumental ensembles. The organization of equipment, classes, schedules, and library management and materials. The development of the elementary and secondary school instrumental programs.

**480 Music Therapy Methods and Materials** 2 hrs. Fall

Survey of materials available for use in music therapy programs and methods of adopting such materials to institutional use. Study of publications and techniques developed specifically for use in music therapy programs. Prerequisite: Music 281.

**490 Undergraduate Workshop in Special Problems 1-3 hrs. Summer**

Designed for students interested in some special field of music not formally listed for instruction. All special problems must be approved by the head of the Department of Music, but may be under the direct guidance of any of the members of the music faculty. This course may be elected as many as three times.

**530 Advanced Choral Conducting 1 hr. Fall**

Supervised experience in conducting vocal groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: 330, 331.

**531 Advanced Instrumental Conducting 1 hr. Spring**

Supervised experience in conducting instrumental groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: 330, 331.

**540 Elementary School Music 2 hrs. Summer**

Emphasizes the place of music in the curriculum and the use of music in the day to day activities of the classroom. The fundamental musical skills are developed in order to assist the teacher to achieve these objectives.

**542 Philosophy and History of Music Education 2 hrs. Spring**

A course designed to acquaint the student with the history of the development of music education in the United States and how this development is the reflection of a growing philosophy of music education.

**543 Psychology of Music Education 2 hrs. Spring**

Personal and social needs, motives and goals in relation to music in education. The function of musical achievement and aptitude tests in music education. Psychological aspects of behavior pattern in musical organizations. Physical, social and psychological factors involved in a developmental music program.

**560 Counterpoint 2 hrs. Fall**

Modal and harmonic counterpoint as exemplified by the composers of the fifteenth, sixteenth, seventeenth, and early eighteenth centuries. Modern counterpoint. Practical application through the writing of strict counterpoint in the five species—double counterpoint, obligatos, descants, canons and fugues. Prerequisite: 260, 261.

**561 Counterpoint 2 hrs. Spring**

A continuation of 560 (405A)

**562 Advanced Composition 2 hrs. Fall**

Further original work in composition dealing with the larger forms in both vocal and instrumental fields. Prerequisite: 362, 363.

**563 Advanced Composition 2 hrs. Spring**

A continuation of 562.

**567 Orchestration****2 hrs. Fall**

A study of the characteristics of the various instruments, application in arranging for various instrumental combinations including accompaniments for solos, vocal and instrumental. The course is about evenly divided between arranging for band and for orchestra. Some attention is given to the problems in score reading. Prerequisite: Sophomore 260, 261.

**568 Orchestration****2 hrs. Spring**

A continuation of 567.

**570 Music of Wagner and Beethoven****2 hrs. Spring**

A course designed to acquaint one with the music of these composers, its style, its place in the field of Music Literature and its relationship to the period in which they lived. Open to any interested senior or graduate student.

**590 Operetta and Musical Production****2 hrs. Summer**

A course designed to give the school music teacher the techniques for presenting musical productions. Such areas as selection of the production, casting, lighting, scenery, staging, publicity, costumes, make-up, etc. will be discussed. The course will culminate in a public performance.

Graduate students will be required to assist with other parts of the production in addition to participating in the performance.

**APPLIED MUSIC**

Individual lessons in applied music can be elected for academic credit by any student in the university. Students in other departments of the university who wish individual instruction in some field of applied music should contact the head of the Department of Music for assignment of instructor. Such requests will be granted to the extent that the instructor's time and practice facilities are available beyond the needs of the music-major degree candidates. All music majors are required to have 60 minutes a week of individual instruction in their major performance field of concentration through the entire four year course.

Eight levels of study in the various areas of applied music are indicated in the Music Supplement Catalog. Levels one through five grant two semester hours of credit per semester. Levels five through eight may grant three semester hours of credit per semester.

H20 through H35 Harp

H40 through H55 Piano

H60 through H75 Organ

H80 through H95 Voice

Z20 through Z35 Stringed Instruments: Violin, Viola, Cello, Bass Viol

Z40 through Z55 Brass Instruments: Cornet or Trumpet, Trombone, French Horn, Tuba, Baritone

Z60 through Z75 Woodwind Instruments: Flute, Oboe, Bassoon, Clarinet, Saxophone

Z80 through Z95 Percussion

## MUSIC ENSEMBLES

All music majors are required to participate in some large music ensemble, e.g., orchestra, choir, band, or glee club throughout their four years of study. It is expected that each student will take part for his first two years in a large ensemble employing his major performance area. The student will remain in that large ensemble for the entire academic year. Sometime during the student's residence he is expected to take one year of small ensemble (117). All music ensembles grant one hour of credit for each semester of participation. Not more than eight hours credit will be granted for participation in any one ensemble. Not more than twelve hours of ensemble credit will be accepted toward any degree. Students who want to participate in an ensemble should contact the director.

### 110 University Band

Mr. Meretta

This organization affords to the student who plays some instrument an opportunity for development in both marching and playing. The band furnishes music at many athletic events, concerts are given during the year on the campus and at various high schools. Uniforms and many of the instruments are furnished. (May be substituted for Physical Education credit.)

### 111 University Orchestra

Mr. Stulberg

The orchestra is open to all students who have had a reasonable amount of orchestra experience. Many fine compositions will be studied and played during the year, and the orchestra joins with other campus organizations in joint programs. Instruments are available for the use of the students.

### 112 University Choir

Dr. Carter

The University Choir has a limited membership. The organization aims to develop and perpetuate a high standard of choral-ensemble singing. Each year the choir makes a number of appearances on the campus and before high schools and other organizations.

### 113 University Singers

Mrs. Snyder

University Singers is open to all students (men and women) who wish to obtain a knowledge of choral music. The choir sings concerts on campus and for other organizations in the area.

### 114 Varsity Band

Mr. Meretta

Membership in this band is open to students who have had some previous experience on a wind instrument. This organization is designed for students whose schedules or qualifications do not permit their immediate enrollment in the concert band. The band plays for athletic events and other university functions.

**115 Men's Glee Club****Mr. Frey**

Open to all men with musical ability who have had experience in singing. The club makes a concert tour during the spring vacation in addition to filling numerous other engagements and taking an active part in the musical life of the campus.

**116 Women's Glee Club****Mrs. Snyder**

The Women's Glee Club of fifty is selected by try-outs. The object is to select students for special artistic training in ensemble work. The Glee Club sings before a number of high schools throughout the state and takes an active part in the musical work on the campus and in the city.

**117 Special Music Ensembles****The Staff**

Special instrumental or vocal ensembles may be formed with the permission of the head of the Department of Music. Where a sufficient number of hours of rehearsal per week warrant it, one hour of credit will be granted.

## DIVISION OF LANGUAGES AND LITERATURE

**Zack York, Chairman**

The Division includes the Departments of English, Languages, Philosophy and Religion, and Speech. The heads of the departments and the departmental counselors will advise students relative to requirements for majors and minors in these departments and concerning any special requirements set up by the departments.

### ENGLISH

Frederick J. Rogers,  
Head  
Thelma E. Anton  
Georgiann Burge  
Edward T. Callan  
Bernadine P. Carlson  
Philip S. Denenfeld  
John R. Freund  
Edward L. Galligan  
Lorena M. Gary  
Clayton A. Holaday

Frank C. Householder  
Robert M. Limpus  
Irving Lo  
John J. McNally  
Jean Malmstrom  
Helen E. Master  
Ralph N. Miller  
Arnold Nelson  
Lucille A. Nobbs  
John B. Orr  
Dorothy Osborn

Robert A. Palmatier  
David G. Pugh  
Katharine D. Rogers  
William R. Rosegrant  
David F. Sadler  
Helen G. Sellers  
Charles A. Smith  
Anne O. Szalkowski  
Ruth G. Van Horn  
Louise J. Walker  
John W. Woods

The study of English has a time-honored place in the university as a force to increase a student's sensitivity to art, to people, and to language. It is recognized also for its importance as a preparation for certain vocations.

The Department offers the student an opportunity to prepare himself for teaching, for graduate study, for the professions, and for the increasing number of positions which utilize the special skills and information of the liberal arts graduate. The Department wishes the student majoring in English to have an acquaintance with literary history, the relation of culture and literature, principles of the evaluation of literature, the history and structure of the language, and techniques of composition.

The major in English consists of a minimum of 24 hours, the minor of a minimum of 15 hours. By university regulation, no more than 40 hours may be elected. The prescribed sequences for the various curricula are listed below. Elections of additional courses must be made to complete the major and minor requirements. It is important that the elections be carefully made; in order to insure a balanced and coherent sequence, a student intending to have a major or minor in English should confer with an adviser in the Department by the end of his third semester.

**Majors in the Liberal Arts or  
General Degree Curriculum**

	S.H.
Literary Interpretation	3
American Literature or Great American Writers	3
Shakespeare	3
Chaucer	3
Advanced Writing or Creative Writing or Journalism	2-3
English Language	2
Development of Modern English	2
Modern English Usage or Structure of Modern English	2
Period courses	
Courses in fiction or drama	

**Minors in the Liberal Arts or  
General Degree Curriculum**

	S.H.
Literary Interpretation	3
English Language	2
Development of Modern English	2
Electives chosen with aid of Departmental adviser to com- plete 15-hour minimum.	

**Majors in the Secondary  
Curriculum**

	S.H.
Literary Interpretation	3
Teaching of English	2
American Literature or Great American Writers	3
Shakespeare	3
Chaucer	3
Advanced Writing or Creative Writing or Journalism	2-3
English Language	2
Development of Modern English	2
Modern English Usage or Structure of Modern English	2
Period courses	
Courses in fiction or drama	

**Minors in the Secondary  
Curriculum**

	S.H.
Literary Interpretation	3
Shakespeare	3
English Language	2
Development of Modern English	2
Teaching of English	2
Elective chosen with aid of de- partmental adviser to com- plete 15-hour minimum.	

Majors in the Elementary Curriculum		Minors in the Elementary Curriculum	
	S.H.		S.H.
Literary Interpretation	3	Literary Interpretation	3
Children's Literature	3	Children's Literature	3
American Literature or Great American Writers	3	English Language	2
Advanced Writing or Creative Writing or Journalism	2-3	Development of Modern English	2
English Language	2	Electives chosen with aid of departmental adviser to com- plete 15-hour minimum.	
Development of Modern English	2		
Modern English Usage or Structure of Modern English	2		
Period courses			
Courses in fiction or drama			

Students who major in English should have a reading knowledge of some modern language, preferably French or German. Students who plan to teach can enhance their professional value by electing courses or getting experience in at least one of these related fields: journalism, play production, teaching of reading.

## LANGUAGE AND COMPOSITION

114 and 115 Communication (See Division of Basic Studies)

116 and 117 College Writing (See Division of Basic Studies)

**264 Journalism** 3 hrs. Fall

Theory and practice in writing news stories, interviews, features, and publicity; copy-editing and headlines.

**265 Journalism** 3 hrs. Spring

A continuation of 264. Editorials, opinion columns, critical writing, cartoons, advertising copy and lay-out, typography, and page lay-outs are studied. Prerequisite: 264.

**270 English Language** 2 hrs. Fall, Spring

A preliminary inquiry into the principles which govern language study.

**362 Advanced Writing** 2 hrs. Fall, Spring

Individualized instruction intended to prepare students to write for professional and avocational purposes.

**366 Creative Writing** 2 hrs. Fall

Original writing in the field of the student's choice. Open to sophomores on recommendation of their freshman writing teachers.

**367 Creative Writing** 2 hrs. Spring

Additional original writing. 366 is not a prerequisite.



**372 Development of Modern English 2 hrs. Fall, Spring**

A course in the development of the language, treating the historic and linguistic forces which have brought about changes in the form, grammar, and vocabulary of English. Prerequisite: 270.

**374 Modern English Usage 2 hrs. Fall, Spring**

An examination of tendencies in the usage of contemporary speakers and writers. Prerequisite: 372.

**568 Literary Criticism 2 hrs. Spring**

A study of ancient and modern writers on the nature of literature and how it may be examined and judged. Prerequisite: 210.

**574 Structure of Modern English 2 hrs. Fall**

A study of the evolution of modern syntax. Prerequisite: 372.

**TEACHING****282 Children's Literature 3 hrs. Fall, Spring**

A general survey of the field of literature suited to the needs and interests of children.

**380 Teaching of English 2 hrs. Fall, Spring**

Teaching methods and sources of materials for the English teacher.

**582 Source Material for Literature in Elementary Grades 2 hrs.**

Books and materials about children's literature—indexes, lists, studies both critical and historical. Prerequisite: 282.

**LITERATURE****112 General Literature 3 hrs. Fall**

Readings in European literature from the Greeks to the Middle Ages.

**113 General Literature 3 hrs. Spring**

Readings in European literature from the Renaissance to the contemporary period.

**210 Literary Interpretation 3 hrs. Fall, Spring**

An introduction to literary study to develop skills in critical interpretation.

**222 American Literature 3 hrs. Fall, Spring**

A survey of American Literature from the beginning to the Civil War.

**223 American Literature 3 hrs. Fall, Spring**

A survey of American Literature from the Civil War to the present.

- 224 Great English Writers** 3 hrs.  
A study of writers from Chaucer to Milton. (Not offered in 1959-60).
- 225 Great English Writers** 3 hrs.  
A study of writers from Wordsworth to Huxley. (Not offered in 1959-60).
- 232 Renaissance Literature** 3 hrs. Fall  
A study of the English non-dramatic poetry and prose of the sixteenth century—Sidney, Spenser, Bacon, and others.
- 233 Renaissance Literature** 3 hrs. Spring  
A study of the non-dramatic poetry and prose of the first half of the seventeenth century—Donne, Jonson, Herrick, Bunyan, Browne, and others.
- 238 Contemporary Literature** 2 hrs. Fall, Spring  
Readings in British poetry, fiction, and drama since 1900.
- 239 Contemporary Literature** 2 hrs. Fall, Spring  
Readings in American poetry, fiction and drama since 1900.
- 244 Short Story** 2 hrs. Fall, Spring  
A study of the short story as an art form.
- 252 Shakespeare** 3 hrs. Fall, Spring  
A study of Shakespeare's art through the application of several critical methods to selected tragedies, histories, and comedies.
- 253 Shakespeare** 3 hrs. Spring  
An intensive study of special critical problems in Shakespeare's dramatic writing. Prerequisite: 252.
- 254 Milton** 3 hrs.  
An intensive study of Milton's poetry and prose. (Not offered in 1959-60).
- 256 The English Bible: The Old Testament** 2 hrs. Fall, Spring
- 257 The English Bible: The New Testament** 2 hrs. Fall, Spring
- 322 Great American Writers** 3 hrs. Fall, Spring  
A study of major American writers. (This course cannot be counted for credit together with courses 222 and 223). Prerequisite: 210.
- 330 Medieval Literature** 3 hrs. Spring  
A study of medieval narrative, lyric poetry, and drama from Boethius to Malory. Prerequisite: 210.
- 336 Victorian Literature** 3 hrs. Fall  
English poetry from 1832 to 1900. Prerequisite: 210.
- 337 Victorian Literature** 3 hrs. Spring  
English prose from 1832 to 1900. Prerequisite: 210.

- 342 English Drama** 2 hrs. Fall, Spring  
A study of representative plays and playwrights from 1580 to 1890. Prerequisite: 210.
- 343 Modern Drama** 2 hrs. Spring  
European and American plays from Ibsen to the present. Prerequisite: 210.
- 344 English Novel** 3 hrs. Fall, Spring  
The development of the English novel from Defoe to Hardy. Prerequisite: 210.
- 345 Contemporary Novel.** 3 hrs. Fall, Spring  
A study of the tendencies in fiction since 1900. Prerequisite: 210.
- 350 Chaucer** 3 hrs. Fall, Spring  
A study of Chaucer's major poems. Prerequisite: 210.
- 396 English Honors** 3 hrs. Fall  
A course providing opportunity for studies in special topics under departmental guidance, for selected English majors.
- 397 English Honors** 3 hrs. Spring  
A continuation of 396.
- 496 English Honors** 3 hrs. Fall  
A continuation of 397.
- 534 Restoration Literature** 3 hrs. Fall  
Studies in Dryden, Swift, and Pope. Prerequisite: 210.
- 535 Eighteenth-Century Literature** 3 hrs. Spring  
Studies in the decline of the old and the development of new literary interests as revealed in the work of Thomson, Gray, Cowper, Blake and others. Prerequisite: 210.
- 536 Early Romantic Literature** 3 hrs.  
Readings in Blake, Burns, Wordsworth, Coleridge, Scott, and the major criticism of the period. Prerequisite: 210. (Not offered in 1959-60).
- 537 Later Romantic Literature** 3 hrs.  
Readings in Byron, Shelley, Keats, Hazlitt, Lamb, and DeQuincey. Prerequisite: 210. (Not offered in 1959-60).
- 559 Midwestern Literature** 2 hrs. Spring  
The origins, characteristics, and historical development of the imaginative literature of the American Midwest. Prerequisite: 210.

**LANGUAGES**

Mathilde Steckelberg,  
Head  
Elizabeth Giedeman

Herb B. Jones  
Eunice E. Kraft  
Marilyn Lamond

Francis E. Noble  
Hermann E. Rothfuss  
Marion Tamin

The usual major consists of twenty-four hours. The usual minor consists of fifteen hours. Some work is to be taken in courses numbered beyond the two-hundreds.

The selection of specific courses for a major or a minor is planned in cooperation with the departmental adviser. The student should secure a departmental adviser's slip early in his university course.

**Major in French**

Phonetics 406 3 hrs.  
France and the French  
304, 305 2 hrs.  
19 hrs. in sequence in addition

**Minor in French**

Phonetics 406 3 hrs.  
France and the French  
304, 305 2 hrs.  
10 hrs. in sequence in addition

**Major in German**

German Conversation and Com-  
position 310, 311 4 hrs.  
20 hrs. in sequence in addition

**Minor in German**

15 hrs. in sequence

**Major in Latin**

Latin Writing 420 3 hrs.  
21 hrs. in sequence in addition

**Minor in Latin**

15 hrs. in sequence

**Major in Spanish**

24 hrs. in sequence, including  
a 400 literature course

**Minor in Spanish**

15 hrs. in sequence, including  
Conversation 332.

**In the Secondary Curriculum, the elementary courses cannot be used for a major or minor.**

Students who wish to do practice teaching in Latin, should take Teaching of Latin 442.

A course in modern European history is desirable for students majoring or minoring in a modern foreign language.

Students are urged to take the advanced courses as full year units.

No credit will be given unless the elementary course is completed.

**FRENCH****100 Elementary French****4 hrs. Fall**

This course is designed to give the basic foundation needed to read a simple text in French. It aims also, to give training in understanding spoken French and an elementary knowledge of pronunciation with the help of records and recorder.

**101 Elementary French****4 hrs. Spring**

This course is a continuation of the basic grammar, pronunciation, drill, and work in oral comprehension begun in French 100. About 150 pages of reading will be used as a basis for conversation practice. French records and the recorder will be used frequently.

**200 Intermediate French****4 hrs. Fall**

This course consists of a review of French grammar with frequent written and oral exercises aiming at making grammar functional. About 200 pages of text chosen from novels, short stories and plays are read. The composition consists of reproduction of texts read in class; other texts are read outside for comprehension and enjoyment.

**201 Intermediate French****4 hrs. Spring**

This is a continuation of 200. In this semester 300 pages of reading are completed.

**300 Nineteenth Century French Literature****3 hrs. Fall**

This course is a study of romanticism and the development of realism, with reading from Chateaubriand, Victor Hugo, Alfred de Vigny, Musset. Prerequisite: 100-101, 200-201 or equivalent.

**301 Nineteenth Century French Literature****3 hrs. Spring**

This continuation of 300 is a study of naturalism, with readings from Balzac, Flaubert, Zola, Rostand; and the Parnassian and symbolistic schools of poetry.

**302 Conversation and Composition****2 hrs. Fall**

This course is intended to develop ease and accuracy in the use of everyday French. Prerequisite: two years of high school French or equivalent.

**303 Conversation and Composition****2 hrs. Spring**

This is a continuation of 302.

**304 France and the French****1 hr. Fall**

This course is required of those specializing in French, but is conducted in English and is open to those not in the Department of French. A study is made of geography, art, historical monuments and contemporary problems of French life.

**305 France and the French****1 hr. Spring**

This is a continuation of 304.

**400 Contemporary French Literature****2 hrs.**

A study of a few outstanding novels by leading writers of the period between the two wars, with a definite effort to find out the different trends of thought of contemporary writers. Prerequisite: three years of college French or equivalent. Not offered 1959-1960.

**401 Contemporary French Literature****2 hrs.**

This continuation of 400 consists of a study of the evolution of the drama in France from the beginning of the twentieth century, with careful reading of a few outstanding plays. Prerequisite: three years of college French or equivalent. Not offered 1959-1960.

**402 Seventeenth Century French Literature****3 hrs.**

This is a study of the development of classicism against the social background of the seventeenth century. An anthology of the prose and poetry of the period is used as the center of interest. Prerequisite: three years of college French or equivalent.

**403 Seventeenth Century French Literature****3 hrs.**

This is a study of the great dramatists: Corneille, Racine, Molière, with a thorough study of some of their best-known plays. Prerequisite: three years of college French or equivalent.

**404 Survey of French Literature****2 hrs. Fall**

This course is intended to acquaint students with the masterpieces of French Literature, with special emphasis on the medieval period and the Renaissance. Prerequisite: three years of college French or equivalent. Offered in 1960-1961.

**405 Survey of French Literature****2 hrs. Spring**

This is a continuation of 313A with emphasis on the eighteenth century philosophers and their influence on the political reformers in America. Offered in 1960-1961.

**406 Phonetics****3 hrs. Fall**

This course is intended to give a corrective description of the difficulties encountered by students of French with Anglo-American habits of pronunciation. Required of all students majoring or minoring in French. Prerequisite: two years of college French or equivalent.

**407 Advanced Composition and Grammar Review****3 hrs. Spring**

This course is intended to verify and to strengthen the knowledge of fundamental principles of grammar in those students who are planning to teach French. Prerequisite: two years of college French or equivalent.

**500 Studies in Contemporary France****2 hrs.**

This course investigates more deeply some phases of French life which were only mentioned in 304, 305. An effort is made to understand those factors in French thinking which strongly affect international thought today. There is no prerequisite in foreign language. Summer session 1959.

**502 Masters of Contemporary Thought****2 hrs. Spring**

Continues with a study of a brilliant period in the history of the French theater, with careful reading of a few plays.

**GERMAN****110 Elementary German 4 hrs. Fall**

This course aims to give the student an understanding of the fundamentals of German grammar, and some facility in speaking and writing the language. Ability to read German is developed by the study of 100 pages of prose. One year of high school German may be applied on the elementary course.

**111 Elementary German 4 hrs. Spring**

This is a continuation of 110. Approximately 100 pages of prose are read, and grammar, oral work, and composition are correlated. No credit is given for 110 unless 111 is completed.

**210 Intermediate German 4 hrs. Fall**

This course begins with a review of basic German for the purpose of making it function in speech, composition and reading. A study of cultural material and contemporary prose with related oral and written composition completes the semester's work. Prerequisite: one year of college German or two years of high school German.

**211 Intermediate German 4 hrs. Spring**

This is a continuation of the reading and related work of 200. Texts used are "German Heritage" and "German Short Stories 1945-50". To improve diction, records are used and recordings of student pronunciation are made.

**212 Scientific German 4 hrs. Fall**

This is a course in the extensive reading of scientific material. Students are given an opportunity for specialization in the field of their major interests. Prerequisite: one year of college German or two years of high school German.

**213 Scientific German 4 hrs. Spring**

This is a continuation of the extensive reading of scientific material. Unedited material from encyclopedias of science and from current science magazines is introduced.

**310 German Conversation and Composition 2 hrs.**

The aim of this course is practice in speaking and writing German. It is required of students majoring in German. Prerequisite: the equivalent of two years of college German.

**311 German Conversation and Composition 2 hrs.**

This is a continuation of 310.

**410 German Literature to 1825 4 hrs. Fall**

This is a survey of German literature through the time of Lessing, with readings from early German epics and lyrics and a detailed study of the times and works of Lessing. Prerequisite: the equivalent of two years of college German.

**411 German Literature to 1825****4 hrs. Spring**

This is a study of the classical period, and a continuation of 410. The life and works of Goethe, Schiller, and other poets of the period are studied.

**412 German Literature from 1795 to 1825****4 hrs. Fall**

The romantic movement in Germany and German drama through the time of Hebbel are studied. The works of the romanticists and the dramas of Kleist and Hebbel are read. Prerequisite: the equivalent of two years of college German. Offered in 1960-1961.

**413 German Literature from 1825 to the Present****4 hrs. Spring**

This course is a continuation of 412. The work covers German literature from Grillparzer to the present. A study is made of the dramatic, epic, and lyric poetry of the period, with readings from Grillparzer, Hauptmann, Hugo von Hofmannsthal, and other poets. Offered in 1960-1961.

**510 The Central European Area****2 hrs.**

This course proposes to investigate cultural aspects necessary for an understanding of the Central European situation. Countries included will be Germany, Austria, Switzerland, and Czechoslovakia. Historical, geographical, social and religious problems will be investigated to give the student an insight into this topic. There is no foreign language prerequisite for the course.

**512 Development of German Thought****2 hrs. Fall**

This course is a study of the development of Germany and the German national character. It will include a study of selected authors on history, philosophy and pedagogy, as well as German literature in translation. There is no foreign language prerequisite: Offered in 1960-1961.

**514 Germany Through the Centuries****2 hrs.**

This course is intended, by means of a study of German cultural history, to give the student an understanding of the vital German problem as it developed through the centuries down to our own day. Geographical, literary, philosophical, educational, and art aspects will be investigated by means of readings and discussions. No foreign language prerequisite. Summer session 1960.

**580 Modern Language Instruction****2 hrs.**

This is a course for teachers of French, German or Spanish in the high school and grades. Problems common to all three will be considered. The basis for the course will be psychological principles underlying language learning, an evaluation based on them of current methodology, and a critical survey of cultural materials in the three civilizations, suitable for present day school use. Offered in Summer session 1959.



## LATIN

**120 Elementary and Second-Year Latin** 4 hrs. Fall

This course is designed for those students who need two units of Latin for admission to the AB curriculum or to a medical, law, or other professional course. With 121 it covers the work of two units of high school language requirement.

**121 Elementary and Second-Year Latin** 4 hrs. Spring

A continuation of 120. A student may present one unit of high school Latin and enter the course in the second semester.

**220 Cicero and Ovid** 4 hrs.

Orations and letters of Cicero are read. One day each week is devoted to Latin composition. Prerequisite: two units of high school Latin or Latin 120, 121. Offered in 1960-1961.

**221 Cicero and Ovid** 4 hrs.

This is a continuation of 220. Selections from Cicero and from Ovid's "Metamorphoses" are read. Offered in 1960-1961.

**222 Virgil** 4 hrs. Fall

The first books of the *Aeneid* are read and a survey of the whole is begun. A study of Greek and Roman mythology accompanies the reading. Prerequisite: at least two units of high school Latin.

**223 Virgil** 4 hrs. Spring

This is a continuation of 222. Intensive study of the first six books is continued, and the survey of the whole is completed.

**320 Horace** 4 hrs. Spring

The *Odes*, *Epodes*, and *Satires* are read. A study of the philosophy of Horace accompanies the reading.

**321 Horace and Latin Comedy** 4 hrs.

The epistles of Horace are read, the *Ars Poetica* acting as an introduction to the study of the rise and development of Latin comedy, which is represented by selected plays of Plautus and Terence.

**324 Latin Literature** 4 hrs. Fall

A survey of Roman literature with reading of representative Latin authors is the aim of this course. Selections from Pliny's Letters and Cicero's philosophical works are read.

**325 Latin Literature** 4 hrs. Spring

In this continuation of 224, selections from the Histories of Livy and the Latin poets are read.

**358 Mythology****3 hrs. Spring**

This is a survey of the principal myths and legends of Greece and Rome. It is accompanied by a study of their representations in painting and sculpture, and by appropriate readings in English literature. Credit from this course may be applied on Group I or on an English major and minor.

**420 Latin Writing****3 hrs. Fall**

Practice is given in the fundamental principles of correct expression in Latin. Required of all students majoring in Latin.

**558 Mythology**

This course investigates the origins, elements and interpretation of the principal myths and legends of Greece and Rome; also their preservation not only in literature but also in painting, music, and sculpture.

**RUSSIAN****162 Elementary Russian****3 hrs. Fall**

Fundamentals of pronunciation, vocabulary, grammar, and sentence structure are given as a basis for reading Russian. To be admitted, student must have two years of any foreign language in high school, one year in college or the permission of the head of the department.

**163 Elementary Russian****3 hrs. Spring**

The basic work is continued with the addition of simple reading texts. Both semesters must be completed if the student wishes credit.

**SPANISH****130 Elementary Spanish****4 hrs. Fall**

This course is planned to give the student a thorough preparation in the fundamentals of Spanish. Careful attention is devoted to both the written and spoken language, with emphasis always on its practical application. The language laboratory is made available for individual development.

**131 Elementary Spanish****4 hrs. Spring**

This is a continuation of 130.

**230 Intermediate Spanish****4 hrs. Fall**

This is a complete review course designed to strengthen the knowledge and abilities acquired in Spanish 130, 131 and, at the same time, enlarge the vocabulary. Cultural and historical accomplishments of Spain provide the basis for reading and conversational practice. Prerequisite: two years of high school Spanish, or 130, 131.

**231 Intermediate Spanish****4 hrs. Spring**

This is a continuation of 230.

**330 Advanced Spanish****4 hrs. Fall**

Emphasis is placed on developing a greater facility in speaking the language on an advanced level. Original composition is practiced and ease in reading of Spanish literature is developed. It is also the purpose of this course to give a knowledge and understanding of the Spanish-speaking nations. Prerequisite: 230, 231.

**331 Advanced Spanish****4 hrs. Spring**

This is a continuation of 330.

**332 Spanish Conversation****2 hrs. Fall**

This course is intended to develop ease and accuracy in the use of everyday Spanish. Prerequisite: two years of high school Spanish, or 130, 131.

**333 Spanish Conversation and Composition****2 hrs.**

This is a continuation of 332. It will be offered if there is sufficient demand.

**334 Latin-American Life and Culture**

This course is a survey of the customs, arts, and literature in Latin-American countries, with particular attention to Mexico. It is conducted in English. There is no prerequisite.

**336 Spanish Life and Culture****2 hrs. Fall**

This survey course is designed to provide an introduction to the literature, arts, history, and life in Spain. There is no prerequisite and the course is given in English. Offered in 1960-1961.

**430 Spanish-American Literature****2 hrs.**

This is a survey of Spanish-American literature from the pre-Columbian period to the present, including the literature of the Conquest, the Colonial and Independence period, and that of the Gauchos. Prerequisite: 330, 331 or its equivalent. Offered in 1960-1961.

**431 Spanish-American Literature****2 hrs. Spring**

This is a continuation of 430 bringing the survey to the contemporary writers of Latin-America. Offered in 1960-1961.

**434 The Spanish Novel****2 hrs. Fall**

The development of the Spanish novel during the past hundred years is studied through readings from the works of Fernán Caballero, Juan Valera, José María Pereda, and Palacio Valdés. Prerequisite: 330 or the permission of the instructor.

**435 The Spanish Novel****2 hrs. Spring**

The study of the novel is continued through reading works of Pérez Galdós, Blasco Ibáñez and contemporaries.

**436 Golden Age of Spanish Literature****2 hrs. Fall**

This is a survey of the prose, poetry, and theater of the classical period which covers most of the 16th and 17th centuries. Prerequisite: 330, 331, or permission of instructor.

**437 Golden Age of Spanish Literature****2 hrs. Spring**

This is a continuation of 436.

**530 Contemporary Spanish Theater****2 hrs.**

The Spanish theater and the dramatists of the 20th century are studied. Lectures and reading assignments in English include representative works of the important writers for the theater. No prerequisite in Spanish.

**533 Cervantes****2 hrs. Spring**

The life and works of Miguel Cervantes with special emphasis on *Don Quixote* are studied. The course may be elected by those who will read the masterpiece in translation as well as by those with a good foundation in Spanish.

**PHILOSOPHY AND RELIGION**

Cornelius Loew, Head

Robert Friedmann

**A. PHILOSOPHY**

A student may earn a major by following this sequence: Phil. 200 or 250, 360, 361, 362, and 363; the remaining hours will be selected from these options: Phil. 370, 371, 380, 381; Pol. Sci. 360, 362; Humanities 223.

A student may earn a minor by taking Phil. 200 or 250, 360, 361, and by selecting the remaining hours from the courses listed below.

**200 Introduction to Philosophy****2 hrs. Fall**

A first acquaintance with the problems of philosophy. Some of the topics are the relationships between philosophy, science, and religion; theoretical and practical philosophy; man and the universe; inner life, moral conduct, and aesthetics; and different schools of philosophical thought.

**250 Logic****3 hrs. Fall**

A study of the primary principles and methods of deductive and inductive reasoning and of the sources of common fallacies.

**360 History of Philosophy—Greek and Christian Philosophy 3 hrs. Fall**

The great thinkers of the Greeks and Romans, as Plato, Aristotle, and the Stoics; the church fathers and schoolmen of the Middle Ages. Not offered in 1959-60.

**361 History of Philosophy—Modern and Recent Thinkers 3 hrs. Spring**

The new world-view since the Renaissance: Bruno, Galileo, Descartes, Spinoza, and Leibnitz; English thinkers from Locke to Hume; German thinkers from Kant to Hegel; the more recent philosophers of Europe and America. Not offered in 1959-60.

**362 Great Nineteenth-century Thinkers 3 hrs. Fall**

Reading and discussion of the work of a small number of outstanding philosophers: Hegel, Schopenhauer, Nietzsche, Mill, Royce.

**363 Great Twentieth-century Thinkers 3 hrs. Spring**

Reading and discussion of the work of a small number of outstanding philosophers: Bergson, James, Santayana, Dewey, Whitehead.

**370 Design for Living 2 hrs. Fall**

Man viewed as an individual: life with and without a design; conflict situations in life and the issue of freedom; the meaning of life; responsibilities toward one's self and one's neighbors; concern, service, and love.

**371 Social Values 3 hrs. Spring**

Man viewed as a member of organized society: forms of social relationships and responsibilities; moral implications of democracy; individualism, cooperation, and the problem of planning; the need for international order; and the essence of liberty.

**380 The Philosophy of History 2 hrs. Fall**

Theories about the laws and principles of history; question of fate or contingency; inner meanings of historical events; traditions and revolutions; Toynbee, Sorokin, Spengler, and other theorists. Not offered in 1959-60.

**381 The Philosophy of Science 2 hrs. Spring**

The logical foundations and the methodology of science; the eternal principles of the universe as discussed in physics, chemistry, and biology; natural law and causality; mechanism and vitalism.

**446 and 467 Independent Study****B. RELIGION**

A student may earn a minor in Religion by choosing at least ten hours from the courses listed below, and by electing from five to seven hours of the following options: Hist. 352, 555; Phil. 370, 371; Soc. 574.

**201 Introduction to Religion 3 hrs. Fall, Spring**

A survey of anthropological, archaeological, and historical data which provide a background against which the Biblical view of nature, man, and God can be seen and understood.

**310 The World of the Old Testament 2 hrs. Fall**

The distinctive religious faith and traditions of the Hebrew people studied against the background of the ancient civilizations of the Middle East.

**311 The World of the New Testament 2 hrs. Spring**

The distinctive religious faith and traditions of the early Christian Church studied against their Jewish background and Hellenistic environment.

**330 Great Religions of the World: The East 3 hrs. Fall**

A study of Hinduism and Buddhism in terms of their historical development, their systems of thought, and their contemporary revival. Special emphasis is placed on reading and analysis of original sources available in English translation.

**341 Christianity and Modern Thought 3 hrs. Spring**

Eighteenth- and nineteenth-century intellectual challenges to Christianity; Christian responses, especially those supported by recent trends in biblical studies and the philosophy of religion.

**344 Religious Aspects of Modern Poetry and Drama 2 hrs. Spring**

A study of selected literary works of Eliot, Auden, Tennessee Williams, Graham Greene, Robert Penn Warren, Albert Camus, and other contemporary artists. The concern of the course is to teach students to read imaginative literature in genuinely religious as well as fully aesthetic terms.

**520 Religious Heritage of America 2 hrs. Fall, Spring**

A study of the histories of Judaism, Protestantism, and Roman Catholicism in the United States, followed by a study of distinctive beliefs and practices which are characteristic of these three traditions at the present time.

**SPEECH**

Zack L. York, Head  
Albert B. Becker  
Charles T. Brown  
Marvin E. DeBoer  
Faber B. DeChaine  
William R. Dopheide

Robert Dye  
George O. Eglund  
Beatrice Hartman  
Charles R. Helgesen  
Deldee M. Herman  
Radford Kuydendall

Robert Marsden  
John J. Pruis  
Ann M. Shaw  
Charles Van Riper  
M. Glen Wilson

Courses in the department are offered with three major responsibilities in mind: to meet the cultural and professional needs of the general student body; to meet the needs of students preparing to teach in the various departments of the public schools; to prepare students to teach speech.

A beginning student, whatever his special interest in the field, shall take one of the following first level courses: Communication 114, 115; Speech Courses 102, 100, 104. These courses may not be counted toward minimum requirements for a major or minor in speech. General speech 100 is required of all teaching majors and minors.\* All teaching of speech majors and minors shall take the appropriate speech methods course as recommended by the chairman.

\*Exceptions may be made upon the recommendation of an instructor and/or approval of the chairman of the department.

A teaching and a non-teaching major are offered. (For speech correction major see Special Education Curriculum—Speech Correction.) 1. Requirements for a teaching major in speech: one first level course, 110, 130, 222, 234, 250, 320, 562, and electives to make a total of 27 semester hours. 2. Requirements for a non-teaching major are courses in the field totaling 27 semester hours planned in consultation with the chairman of the department before the end of the student's sophomore year. All students are urged to include in their programs Parliamentary Procedure 230 and as many additional courses in speech as possible.

Six minor sequences are offered requiring 15 semester hours each.

1. Teaching minor in dramatics and interpretation: Courses 110, 222, 320, 562 and 130 or another course in an area other than dramatics and interpretation.
2. Teaching minor in forensics: 130, 234, 566, 562, and 110 or another course in an area other than forensics.
3. Teaching minor in general speech: 110, 130, 562, and electives to make a total of 15 semester hours.
4. Teaching minor in elementary education: 100, 560, 564, and 8 hours electives (4 hours may be Communication).
5. Non-teaching minor in radio: 140, 240, 242, 340, and 110, or another course in an area other than radio.
6. Non-teaching minor in general speech: Sequences are planned to meet the personal interests and needs of the student in consultation with the chairman of the department by the end of the sophomore year.

### 99 Special Speech Problems

No credit. Fall, Spring

Designed to meet the needs of the students with special speech difficulties. Emphasis is placed upon the solution of the individual speech problems through individual and group therapy.

### 100 General Speech

3 hrs. Fall, Spring

A beginning course in speech dealing with the study and application of basic principles underlying effective oral communication. Required of all students planning to secure a teaching major or minor in speech.

### 102 Speech for Teachers

3 hrs. Fall, Spring

Designed for students planning to teach. A beginning course in speech dealing with the study and application of basic principles underlying effective oral communication. Particular attention will be given to developing skill in meeting the special situations encountered by the teacher.

### 104 Business and Professional Speech

3 hrs. Fall, Spring

Designed for students in business or pre-professional curricula. A beginning course in speech dealing with the study and application of basic principles underlying effective oral communication. Particular attention will be given to developing skill in meeting the speech situations encountered in the business and professional world.

**110 Interpretative Reading** 3 hrs. Fall, Spring

Analysis and interpretations of the more simple types of prose and poetry. Emphasis is placed upon developing the student's standards of appreciation of literature and his skill in reading orally from the printed page.

**114, 115 Communication**

For description of course see Division of Basic Studies. Credit for these courses may be given in first level requirements for non-teaching speech majors and minors upon recommendation of the instructor and approval of the head of the speech department.

**130 Public Speaking** 3 hrs. Fall, Spring

Introductory study of principles of public speech and audience psychology. The primary aim is to develop skill in speech composition, clear thinking, and effectiveness in speaking. Frequent opportunity for platform work is given.

**140 Introduction to Broadcasting.** 3 hrs. Fall, Spring

Introductory study and analysis of radio and television with a consideration of the social and psychological effects of broadcasting. Attention is given to developing skill in radio speaking.

**220 History of the Theatre** 2 hrs. Fall

From the beginnings to the English Renaissance.

**221 History of the Theatre** 2 hrs. Spring

From the English Renaissance to the present day.

**222 Acting** 3 hrs. Fall, Spring

Study and practice of the basic principles and techniques of acting designed to help the student to develop a basis for appreciation and criticism.

**224 Stagecraft** 2 hrs. Fall

A beginning course in the planning and construction of stage scenery. Includes laboratory work on campus dramatic productions. No prerequisites.

**226 Stage Design** 2 hrs. Spring

A beginning course for students who want experience in planning and executing stage settings. Includes laboratory practice in staging campus dramatic productions. No prerequisites. Note: This course may be counted for credit in either art or speech.

**228 Stage Make-up** 1 hr. Fall, Spring

Study and practice of the principles and techniques of stage make-up.

**230 Parliamentary Procedure** 1 hr. Fall, Spring

Designed for students who desire knowledge and practice in participating in and conducting business meetings.



**232 Discussion****3 hrs. Fall, Spring**

Study and practice in discussion and conference. Skill in participation, leadership, group thinking, and evaluation are emphasized. Recommended for any student whose vocation involves work with groups, such as students in business, pre-professional, or teaching curricula.

**234 Argumentation and Debate****3 hrs. Fall**

A study of the principles of argumentation and frequent practice in debating current public questions. Attention given to problems involved in judging debates.

**236 Intercollegiate Debating****1 hr. Fall, Spring**

This activity gives students an opportunity to participate in intercollegiate debates, discussions and student congresses. The national college debate and discussion topics are used. Debaters meet regularly as a group. Students interested in qualifying for this activity should contact either the men's or women's debate coach. Maximum of six semester hours may be accumulated.

**242 Radio Production****3 hrs. Spring**

Study and application of radio production techniques. Students will be given experience in directing, using music, sound effects, and other production aids.

**250 Introduction to Speech Correction****3 hrs. Fall, Spring**

Designed to acquaint the student with the scope, history and nature of speech correction. Topics considered are: the development of speech in the child, the psychology of the speech defective and the nature of the speech disorders and their treatment.

**252 Principles of Speech Correction****3 hrs. Fall, Spring**

Designed for students in speech correction, special education, and elementary education. The course is designed to acquaint the student with the methods used in speech correction for the various speech disorders. Prerequisite: 250.

**254 Problems of the Deaf and Hard of Hearing****3 hrs. Spring**

An introduction to fundamental aspects of normal and defective hearing considered from a practical standpoint, as applied to teachers, parents and therapists working with speech and hearing problems.

**300 Voice and Diction****3 hrs. Fall, Spring**

Emphasis is placed exclusively upon voice production and diction. It gives the student a basis for individual analysis and emphasizes an intensive program for self-improvement. No prerequisites.

**310 Interpretive Reading II****2 hrs. Fall**

Advanced work in the oral interpretation of literature, with special emphasis on the dramatic form. Prerequisites: 110, 222 or consent of instructor.

**320 Play Production****3 hrs. Fall, Spring**

Theory and application of basic principles of directing and staging plays with particular emphasis upon production problems of school and community.

**340 Radio and TV Scriptwriting****2 hrs. Fall**

Analysis of radio scripts—commercial, sustaining, and educational. The class will consider the mechanical and production aspects of radio that present special problems to the writer. Emphasis will be placed on preparing scripts in subject matter areas in which class members major or minor. Not offered in 1959-60.

**342 Radio and TV Journalism****3 hrs. Spring**

Basic principles of news reporting; radio and TV as news media; newscasts, commentators, on-the-spot coverage and features. Problems of news staff organization. Emphasis is given to news sources and providing of visual and audio materials.

**350 Phonetics****3 hrs. Fall**

Designed to acquaint the student with the phonetic alphabet, sound formation and phonetic transcription, and with the application of these to foreign language dialect, interpretive reading, dramatics and speech correction.

**352 Practicum in Speech Therapy****1 hr. Fall, Spring**

This course consists of supervised practice in clinical speech correction. Case presentations, therapy planning, the review of pertinent literature, and actual therapy compose the course content. Prerequisite: 250.

**354 Practicum in Speech Therapy****1 hr. Fall, Spring**

A continuation of 351. Prerequisite: 351.

**356 Practicum in Speech Therapy****1 hr. Fall, Spring**

A continuation of 351. Prerequisite: 354.

**500 Speech for the Classroom Teacher****2 hrs. Fall, Spring, Summer**

A course for seniors and teachers in service who find that they need more work in speech. This course is designed to help the teacher analyze and improve her own speech. Emphasis is given to the various speech needs of the classroom teacher.

**516 Oral Interpretation of Drama****2 hrs. Fall**

Reading and analysis of the dramatic form in literature. Aim is to develop and establish a basis for intelligent criticism and appreciation of the drama. Prerequisite: 110.

**520 Children's Theatre****2 hrs. Spring**

Deals with the production of formal plays with and for children. Considers the dramatic literature of the field; selection, staging and direction of children's plays; and psychology of child audiences.

**522 Acting****2 hrs.**

Intensive work in the techniques of creative acting. Each student creates at least one role in a play. Prerequisite: Acting 222 or consent of instructor.

**524 Problems of Play Direction****2 hrs. Summer**

Consider special problems facing the teacher in the field with little or no formal theatre training. Study limited to selecting and casting the play; approach and preparation of the role and directing the play.

**526 Technical Problems of Play Production****2 hrs. Summer**

Companion course to 524. Emphasis placed on problems in planning and executing scenery, lighting, costuming, and makeup.

**530 Public Speaking****2 hrs. Spring**

The study of speech composition, audience psychology, and delivery with particular emphasis upon the language of effective speech. The course includes practice in speaking and analysis of model speeches. Prerequisite: Public Speaking 130 or consent of instructor.

**532 Persuasion****2 hrs. Fall**

Speech skills are developed by the presentation of studies in persuasion, by participating in discussion and by criticism of both. Content of course is the psychological theories and experimentation in motives and theories in persuasion ethics. Recommended for teaching, pre-ministerial, pre-law and business students.

**540 Broadcasting Regulations and Responsibilities****2 hrs. Fall**

Growth of self regulation and governmental regulation of the radio and television industry. Requirements and responsibilities of the broadcaster as an administrator of a public trust. Prerequisites: 140 or 110 or consent of instructor.

**542 Radio in Education****2 hrs. Spring**

Radio series for in-school listening will be auditioned and evaluated. The class will investigate sources of educational programs and experiment in utilization techniques. Experience in making tape recordings for educational use will be provided.

**544 Workshop in Radio****4 hrs. Summer**

Designed especially for the non-specialist interested in educational radio. Emphasis will be placed on planning, writing, and producing radio programs whose aim is to interpret the schools to the public. Individual projects will be planned to fit the particular subject matter interests of each class member.

**550 Basic Voice and Speech Science****3 hrs. Fall**

For students majoring in speech or speech correction. Topics considered include: anatomy and physiology of hearing; speech and hearing; anatomy

and physiology of articulation and phonation; the neurological organization of the speech function; the physics and physiology of quality, pitch and intensity; and the psychology of speech.

**552 Stuttering and Allied Disorders** **3 hrs. Spring**

Designed to provide the student with more detailed knowledge of the nature, and causes, development of stuttering and other serious functional speech disorders. The literature will be surveyed, and the various methods for treating these disorders will be described in detail. Prerequisite: 252.

**554 Applied Speech Correction** **3 hrs. Fall, Spring**

For students interested in the actual practice of speech correction. The course will involve training in the remedial treatment of both adult and child speech defectives in the university clinic and schools associated with the university and the study of the principles of clinical practice. Prerequisite: 252 or consent of instructor.

**558 The Organic Speech Disorders** **3 hrs. Spring**

This course is concerned with the diagnosis and treatment of the speech disorders of organic origin: cleft palate, cerebral palsy, aphasia, aphonia, and dysarthria. Prerequisite: 252 or consent of instructor.

**560 Teaching Speech in the Elementary School** **2 hrs. Spring**

A methods course for the elementary teacher, designed to help her improve the oral language skills of her pupils.

**562 Teaching Speech in the Secondary School** **3 hrs. Fall, Spring**

Designed to give the prospective teacher and the teacher in the field an understanding of the problems of teaching speech to high school students. It considers the aims, principles, curricula, and techniques of modern speech; and seeks to bridge the gap between the student's academic training and its application to the teaching situation.

**564 Creative Dramatics for Children** **2 hrs. Fall, Spring, Summer**

The study of the principles, materials and techniques of informal dramatics as a classroom activity in elementary grades. Includes observation of demonstration groups.

**566 Direction of Forensic Activities** **2 hrs. Spring**

Includes principles of coaching discussion, debate, extempore speaking, oratory, and reading. Opportunities given for participating in the management and judging of speech contests and festivals. Prerequisite: A major or minor in speech, or consent of instructor. Not offered in 1959-60.

## DIVISION OF SCIENCE AND MATHEMATICS

**Charles H. Butler, Chairman**

The Division includes the departments of Biology, Chemistry, Geography and Geology, Mathematics, Physics, and Psychology. Major and minor requirements are listed under the individual departments. The heads of the respective departments will advise students with respect to departmental majors and minors in science and mathematics.

In certain cases where a Divisional or group major or minor in science seems advisable, the Chairman of the Division should be consulted. A group major in science must include at least thirty semester hours of work taken in not more than two departments in the Division, and at least fifteen hours of this work must be in courses above the freshman level. A group minor in science must include at least twenty semester hours of work taken in not more than two departments in the Division, and at least eight hours of this work must be in courses above the freshman level. No courses in mathematics may be included in a group major or minor, but if the two departments in which the work is taken do not include either chemistry or physics, the course in Physical Science (108) may be included among the freshman courses offered.

Divisional or group majors and minors are intended for students in the Elementary Education curriculum. They will not ordinarily be approved for students in other curricula, except that a group major may be approved for students in the Secondary Education curriculum who satisfy all the requirements listed in schedules C or D in the table shown below. On the basis of recent studies the Division has approved certain patterns of courses for the preparation of science teachers for secondary schools. These patterns, shown in the following table, correspond to the most common teaching combinations. Only those students who fully satisfy some one of these approved patterns may be given official Divisional recommendations.

The following Divisional freshman courses are offered: Biological Science; Human Geography; Physical Science. Descriptions of these courses are found under the Division of Basic Studies. In addition to these, the following Divisional courses are offered, and are usually given during the semesters indicated:

### 203 Teaching of Elementary Science

3 hrs. Spring

This course covers important subject matter of the physical and biological sciences with methods for its effective presentation in the classroom, particularly in rural schools.

### 390 Teaching of Physical Science

3 hrs. Spring

Prerequisite: A major or minor in physics or chemistry.

## College Science Courses Recommended for Training Prospective Science Teachers for Secondary Schools

Teaching Pattern	Biology	Chemistry	Physics	Mathematics	General Education Basic Science	Other Science Courses	Science Methods
A. Biology and General Science. In combination with Physical Education	A Basic Course in Introductory Biology A Field Course involving Botany Additional Courses to total at least a 15-hour teaching minor in Biology				Physical Science (2 semesters)	Meteorology (one semester)	Biology Methods (one semester)
B. Biology and General Science	A Basic Course in Introductory Biology (usually 2 semesters) A Field Course involving Botany (one semester) Additional Courses to total at least 24 hours (major) in Biology, to include Botanical and Zoological (both vertebrate and invertebrate) areas	General Chemistry (one semester)			Physical Science (2 semesters)	Astronomy (one semester) Geology, including Field Work (2 semesters) Meteorology (one semester)	Biology Methods (one semester)
C. Chemistry Mathematics Physics and General Science		General Chemistry (2 semesters)  Additional Courses to make a major (24 hours) in Chemistry or in Physics or a group major (30 hours) in a Chemistry-Physics combination	General Physics (2 semesters)	Trigonometry (one semester) College Algebra (one semester) Analytic Geometry (one semester) Additional Courses to make a minor (15 hours)	Biological Science (one semester) Human Geography (one semester)	Astronomy (one semester)	Physical Science Methods (one semester)
D. Biology Chemistry Physics and General Science	A Basic Course in Introductory Biology (usually 2 semesters) A Field Course involving Botany (one semester) Additional Courses in Biology and Geology to total at least 20 hours (group minor)	General Chemistry (2 semesters)  Additional Courses to make a major (24 hours) in Chemistry or in Physics or a group major (30 hours) in a Chemistry-Physics combination	General Physics (2 semesters)			Geology, included in group minor with Biology (2 semesters) Meteorology (one semester)	Biology or Physical Science Methods (one semester)

**BIOLOGY**

W. C. Van Deventer,	Bettina B. Carter	Edward E. Reynolds
Head	A. Verne Fuller	Thane S. Robinson
Lee O. Baker	Frank J. Hinds	Beth Schultz
Bette E. Barnes	Elaine Hurst	Edwin B. Steen
(on leave)	Daniel F. Jackson	Leo C. Vander Beek
Harriette V. Bartoo	Myrtle M. Powers	Merrill R. Wiseman

Courses 100 and 101 serve as the foundation for a biology major, for pre-professional training in medicine, dentistry, nursing, medical technology, forestry, horticulture, and landscape architecture, and as general prerequisites for advanced courses in the department. Students who are not planning to specialize in biology generally take course 107.

A recommended major for pre-medical and pre-dental students should include 100, 101, 240, 241, 341, and 343. If possible, 312 and 313 should be elected. A recommended major for students preparing to enter forestry, horticulture or landscape architecture should consist of 100, 101, 220, 221, 240, and 241. If possible, 224, 347, and 320 should be elected. Those majoring in biology are required to take their general education science work in the physical science area.

A major or minor for secondary teachers should be based on 100 and 101, and should embrace as wide a range of courses as possible within the department. Not more than eight hours of 100 level work are counted toward a major or a minor. Any major or minor must include work in the following areas: (1) animals, (2) plants and (3) the human body. It must also include some work taken at the junior or senior level. Prospective secondary teachers majoring or minoring in biology must take 304. This course should be taken before the student enrolls for directed teaching in biology.

A recommended biology minor for elementary teachers consists of 107, 232, 233 and three or more elective hours of work beyond the 100 level.

All biology majors are required to attend Biology Seminar.

**100 General Biology****4 hrs. Fall**

This and the following course, 101, cover the field of biology and serve as a foundation for advanced courses. This course includes a study of the cell and protoplasm, unicellular organisms, and the animal groups in the order of advancing complexity. First semester. Six class hours weekly, including lecture and laboratory.

**101 General Biology****4 hrs. Spring**

A continuation of 100, covering the higher animal groups, the plant groups, genetics, evolution, ecology and conservation. Second semester. Six class hours weekly, including lecture and laboratory.

**107 Biological Science****4 hrs. Fall, Spring, Summer**

A course designed to present basic biological principles, and to give the student an understanding of the operation of the world of life. This course fulfills the general education requirement for biological science.

**201 General Ecology****2 hrs. Spring**

This is a study which deals with plant-animal communities, relationships among living organisms, and interrelationships of living organisms with their environment. Ecological concepts are presented and illustrated. Field work is emphasized. Prerequisite: eight hours of college biology, or consent of instructor.

**231 Outdoor Science for Teachers****3 hrs. Summer**

An abridgement of 232 and 233, designed for teachers in service. Offered only in summers and by extension.

**232 Outdoor Science****4 hrs. Fall**

The development of ability to interpret natural phenomena with scientific accuracy, and to gain an understanding and appreciation of the relationships of life forms to each other and to their environment. The course includes flowering and non-flowering plants, insects, spiders, winter birds, mammals and astronomy. Especially desirable for elementary teachers. Field trips are a part of the scheduled work.

**233 Outdoor Science****4 hrs. Spring**

This course has the same aims as 232. It includes spring plants, pond life, migratory and resident birds, rocks, minerals and weather. Especially desirable for elementary teachers. Field trips are a part of the scheduled work. Students may enter without having had 232.

**302 Man and the Living Environment****3 hrs. Fall**

A study of interrelationships among plants and animals, including man. Emphasis is placed on classroom and field experiences which will lead to an understanding of man's dominance and of the development of the human-plant-animal community.

**304 Methods and Materials in Biology****2 hrs. Fall, Spring**

This consists of class discussion, laboratory practice and field work, illustrating the collection, preparation, care and use of materials for biology teaching, with particular reference to high school. This course is required of all students who are following a secondary education curriculum, and list biology as a major or minor. Prerequisite: twelve hours of biology, including both zoological and botanical aspects.

**306 Genetics****2 hrs. Fall**

A comprehensive study of the laws of heredity, including their application to plant and animal breeding and to man. Prerequisite: Three semesters of laboratory biology.



**308 Evolution** 2 hrs. Fall

A consideration of the evidence for and the principles involved in the evolution of plants and animals, including man. Prerequisite: 100 and 101, or equivalent.

**309 Nature of Science** 2 hrs. Spring

A consideration of the nature and application of scientific attitude and scientific methodology as exemplified by specific cases from the history of scientific research. Prerequisite: eight hours of college biology, or consent of instructor.

**330 Fish and Game** 3 hrs. Fall

Designed to acquaint the student with the basic principles, techniques and practices which are employed in the management of fish and game animals. Life histories, food, cover and other important environmental factors are discussed.

**505 Advanced Studies in Genetics** 2 hrs. Spring

Special problems in genetics, with emphasis on laboratory work. Prerequisite: 306 or equivalent, or consent of instructor.

**554 Field Studies in Ecology** 2 hrs. Fall

This course is designed for students who have had sufficient experience in field biology to enable them to carry on studies of specific ecological problems in the field. Prerequisite: twelve hours of college biology, or consent of instructor.

**ANATOMY, PHYSIOLOGY AND HEALTH****111 Healthful Living** 2 hrs. Fall, Spring

A study of the principles underlying sound health practices. Factors in the causation, prevention and control of all departures from normalcy in health are considered.

**210 The Human Body** 3 hrs. Summer

A study of the structure and functioning of the human body. Designed especially for teachers. Offered only in summers and by extension.

**212 Community Hygiene** 3 hrs. Fall, Summer

An introduction to the field of public health. Organized activities for the promotion of physical and mental efficiency, the prevention of disease and the prolongation of life are considered. Prerequisite: one year of college biology.

**213 Anatomy and Physiology** 4 hrs. Spring

The gross and microscopic structures, and the functions of organs and tissues of the vertebrate body, with special reference to man. Three lectures and four hours of laboratory per week. Prerequisite: 100 or equivalent.

**214 Anatomy and Physiology for Nurses****4 hrs. Fall**

An abridgment of 216 and 217, especially adapted to meet the needs of students in the Bronson Methodist Hospital School of Nursing. For Bronson students only.

**215 Bacteriology for Nurses****3 hrs. Spring**

A specialized course dealing with microorganisms, adapted to the needs of students in the Bronson Methodist Hospital School of Nursing. For Bronson students only.

**216 Anatomy****4 hrs. Fall**

A study of the gross and microscopic structure of the organs and tissues of the mammalian body, with emphasis on that of man. In the laboratory, the cat is dissected in detail. Prerequisite: eight hours of biology or equivalent.

**217 Physiology****4 hrs. Spring**

A study of the functions of the various organs and issues of the human body. Experiments concerned with fundamental life processes are performed in the laboratory. Prerequisite: 214 or 216 or equivalent.

**312 Bacteriology****4 hrs. Fall**

A general introduction to the principles governing the study of all microorganisms. Practical techniques are employed in the laboratory. Prerequisite: twelve hours of science selected from the fields of biology and chemistry, or equivalent.

**313 Advanced Bacteriology****4 hrs. Spring**

This course is for more advanced students who are particularly interested in the microorganisms which cause disease. Special techniques are used in the laboratory, and a number of unknowns are identified. Prerequisite: 312 or equivalent.

**512 Health Problems****2 hrs. Fall, Summer**

This course is an intensive study of those diseases and practices which constitute major social problems. Frequent reports are made, and an investigative project is required for graduate credit. Prerequisite: sixteen hours in the fields of biology and/or chemistry, or consent of instructor.

**514 Methods and Materials for School Health Education****2 hrs. Fall, Summer**

A course of lectures and demonstrations in which emphasis is placed on the effective health supervision of school children, the principles and practices of health teaching in the various grades, and the interrelation of this teaching with that of other subjects in the curriculum.

**515 Alcohol Problems****2 hrs. Spring, Summer**

An objective study of a major social problem, examined critically with regard to its physiological, psychological, legal, cultural and sociological aspects. Frequent reports are made, and an extensive project is required of graduate students. Prerequisite: twenty hours in the fields of biology and/or sociology or consent of instructor.

**BOTANY****220 Botany of Seed Plants****4 hrs. Fall**

The study of seed plants, their fundamental gross and microscopic structure, physiology, classification and development. The university greenhouse is used in experiments involving living plants and their propagation. Prerequisite: eight hours of biology, or consent of instructor.

**221 The Plant Kingdom****4 hrs. Spring**

A systematic study of the various plant groups in relation to their identification, structure, reproduction and ecology. During the second half of the semester field studies occupy the major portion of class time. The second half of this course may be taken separately, without the first half, under the title of course 225. Prerequisite: eight hours of biology, or consent of instructor.

**224 Trees and Shrubs****2 hrs. Fall**

A field course in the identification of trees and shrubs occurring in Southwestern Michigan. Attention is given to their geographic and physiographic distribution, and to their economic uses. Prerequisite: eight hours of biology, or consent of instructor.

**225 Local Flora****2 hrs. Spring, Summer**

An elementary field course in the identification of flowering plants. Especially designed for those who need an acquaintance with the common wild flora occurring in this region. This course corresponds to the last half of 221. Students taking 221, therefore cover the material of this course, and cannot obtain additional credit for 225. Those wishing additional work in this area should take course 421. Prerequisite: eight hours of biology, or consent of instructor.

**320 Plant Pathology****3 hrs. Fall**

For students with an interest in biology, agriculture, forestry, or allied fields of botany. This course deals with the common diseases of higher plants, caused by fungi, viruses and physiological factors, as well as those connected with the presence of animals such as nematodes and insect larvae. Emphasis is on causes, carriers and "cures" for plant diseases commonly found in farm, garden and greenhouse cultivation. Prerequisite: one semester of botany or equivalent.

**323 Reproduction and Growth in Plants****3 hrs. Spring**

Intended for advanced students in biology, who feel the need for a survey type course covering a comparative approach to the study of reproduction from the lower forms to advanced organisms. Discussion lectures will deal with such as asexual and sexual reproduction, alternation of generations, parthenogenesis, apospory and apogamy. Experiments in these areas as well as in subsequent growth of type organisms will be set up. Prerequisite: at least twelve hours of biology, including four hours of botany, or consent of instructor.

**421 Flowering Plants****2 hrs. Spring**

An advanced course in field study and identification of flowering plants. Students will be expected to use keys for identification, and assemble an herbarium collection for their own use. Prerequisite: eight hours of biology, or consent of instructor.

**423 Paleobotany****2 hrs. Spring**

Intended to give the student a knowledge and appreciation of plant life of the past. Plant fossils most commonly found in and around Michigan are the subjects of discussion from the standpoint of identification and classification, as well as from that of their structure. At least two extended field trips are arranged during the semester. Prerequisite: twelve hours of biology, including 221.

**424 Economic Botany****3 hrs. Fall**

A course dealing with plants useful to man for food, flavoring, drugs, clothing and building purposes. Field trips are planned to places where plant products are grown, manufactured, exhibited or sold. Emphasis is placed on a knowledge of plant life of economic value in connection with teaching at both elementary and secondary levels. Desirable also for students in business, economics and industrial education.

**426 Plant Physiology****2 hrs. Fall**

A course in which the broader aspects of physiological processes shared commonly with animals are emphasized. Functions of various plant organs are discussed and related to structure. Prerequisite: 220 or its equivalent. A course in high school or college chemistry is desirable.

**521 Plant Taxonomy****2 hrs. Summer**

Designed for those interested in carrying on investigations in the identification, classification and ecological distribution of the higher plants. Students should have some knowledge of plant classification and plant families. They should be able to use standard plant keys, and should be familiar with the organization of an herbarium. A special problem is required. Prerequisite: the equivalent of an undergraduate minor in the field of biology, which should include a course in botany.

**522 Phytogeography****2 hrs. Fall, Summer**

This course deals with present geographical distribution of plants over the earth, emphasizing rainfall, soils, geological and ecological factors which contribute to this distribution. Family, genus and species names will be used in the study. Prerequisite: At least a minor in biology, including 421, or equivalent, or consent of instructor.

**525 Biological Constituents****2 hrs. Spring**

The chemical elements in plants and animals, as well as the synthesis, characterization and degradation products of the more important compounds. Prerequisite: eight hours of laboratory courses in biology, and consent of instructor.

**527 Advanced Studies in Plant Physiology****2 hrs. Spring**

An advanced course in plant physiology covering such topics as photosynthesis, respiration, tropisms, plant-growth regulators and enzymes. This course is especially adapted to those students who expect to teach biology at the college level, but whose past training has been largely in the field of animal or general biology. Students are required to carry out individual investigations. Prerequisite: twelve hours of biology, including 220 or its equivalent. A knowledge of chemistry is desirable.

**ZOOLOGY****240 Invertebrate Zoology****4 hrs. Fall**

A study of the structural characteristics, physiology, life histories, habits, distribution and classification of the invertebrates. Identification of local forms and those having economic importance is emphasized. Eight class hours weekly. Prerequisite: 100 and 101, or equivalent.

**241 Vertebrate Zoology (Comparative Anatomy)****4 hrs. Spring**

A study of the Phylum Chordata; essential features of lower types; general features of chordate development and the comparative anatomy of the systems of vertebrates. Field work may include a trip to the Chicago Natural History Museum. Eight class hours weekly. Prerequisite: 100, 101, 240, or equivalent.

**341 Histology****4 hrs. Spring**

The microscopic study of the cells, tissues and organs of the body, with some attention to their preparation for study. Eight class hours weekly. Prerequisite: 100, 101 and eight additional hours of biology.

**343 Embryology****4 hrs. Spring**

The development of the individual from the origin of the germ cells to adulthood. The frog and chick are emphasized in the laboratory. Eight class hours weekly. Prerequisite: 100, 101 and eight additional hours of biology.

**347 Ornithology****3 hrs. Spring, Summer**

A development of knowledge and appreciation of birds through a study of their plumage, song, flight, migration, nesting habits, relation to environment and importance to man. The student learns to identify birds in the field, and a minimum of 100 species in the laboratory. Early morning field trips are required.

**518 Endocrinology****2 hrs. Fall**

A study of the glands of internal secretion, the active principles produced by each and their effects on bodily metabolism. Prerequisite: three semesters of laboratory biology, or consent of instructor. A course in chemistry is recommended.

**542 Entomology****2 hrs. Fall, Summer**

A general study of insects, their structure, classification, life histories, ecological relationships, economic importance and methods of control. Prerequisite: 100 and 101, or equivalent, or consent of instructor.

**543 Protozoology****2 hrs. Spring**

A study of the comparative anatomy, physiology and ecology of the free-living protozoa, with consideration of their evolutionary relationships. Prerequisite: a minor in biology, or consent of instructor.

**545 Ichthyology****2 hrs. Spring**

A study of the anatomy, physiology, taxonomy and ecology of fresh-water fishes, with particular emphasis on those occurring in Michigan. Prerequisite: eight hours of biology, or consent of instructor.

**547 Advanced Ornithology****3 hrs. Spring, Summer**

Investigation of details of song, habitat, habits and identification of shore and marsh birds in their native haunts. Skins of birds of Michigan, both resident and migrant, are provided for identification. Early morning field trips are required. Prerequisite: eight hours of college laboratory courses in biology, or consent of instructor.

**551 Parasites and Parasitism****2 hrs. Spring**

A study of parasitism and its effects on parasite and host. Typical representatives of the principal groups of animal and plant parasites will be studied in detail. Special attention will be given to the parasites of humans. Prerequisite: three semesters of laboratory biology or equivalent, or consent of instructor.

**555 Natural History of Land Vertebrates****3 hrs. Summer**

To acquaint students with the classification, life histories, adaptations, ecology and behavior of amphibians, reptiles and mammals. Prerequisite: two college laboratory courses in biology or equivalent, or consent of instructor.

**557 Natural History of Invertebrates****3 hrs. Summer**

To acquaint students with the ecology, distribution and taxonomy of the invertebrates of the region, with special reference to their life histories and economic importance. Students will prepare their own teaching collections. Prerequisite: two college laboratory courses in biology or equivalent, or consent of instructor.

**CHEMISTRY**

Lillian H. Meyer, Head	Lawrence G. Knowlton	Alvin Strickler
Robert H. Anderson	Robert C. Nagler	Elizabeth F. Tuller
James W. Boynton	Gerald Osborn	Esther Woodruff
Paul Holkeboer	Lauri E. Osterberg	Elaine Zimmerman
Don C. Iffland		

A major in chemistry consists of one year of general chemistry (8 hours) and 16 hours from the following: 220, 222, 360, 361, 340, 551, 552, 553, 580, 530, 531, 532, 533. Students majoring in chemistry in the general degree curriculum and desiring an industrial laboratory position upon graduation are required to take an additional ten hours of chemistry. Students majoring in chemistry should have a minor in physics.

All chemistry majors are required to take chemistry seminar during junior and senior years.

A minor sequence in chemistry consists of 8 hours of general chemistry and 8 hours from the following: 220, 222, 360, 361, 340, 551, 552, 553.

The Chemistry Department is accredited by the American Chemical Society. Students who take 40 hours of chemistry from the course sequence described below meet the minimum standards for professional training of the American Chemical Society and are certified by the Department Chairman on graduation. These students are eligible for membership, senior grade, in the American Chemical Society after two years of experience in the field of chemistry, rather than five years of experience. The courses required include the 34 hours of basic chemistry through Physical Chemistry 530-533; Organic Preparations 565, and four hours of advanced work. The advanced courses may be taken from the following: 410, 505, 560, 580, 590 and 591.

**100 General Chemistry****4 hrs. Fall**

A course with emphasis on the fundamental principles, theories, and problems of chemistry. It is designed for students with no high school chemistry preparation, and with 101 will give them a basic understanding of the subject and prepare those who expect to continue in more advanced courses of analytical and organic chemistry. Prerequisite: One year of Algebra.

**101 General Chemistry****4 hrs. Spring**

A continuation of General Chemistry 100. Prerequisite: 100.

**102 General Chemistry** 4 hrs. Fall, Spring

This is a more advanced course than 100. The theory and fundamental principles of chemistry are emphasized. It is a foundation course. Prerequisite: One unit of high school chemistry and one unit of algebra.

**103 General Chemistry** 4 hrs. Fall, Spring

A continuation of course 102. Prerequisite: 102

**104 General Chemistry** 4 hrs. Fall

The fundamental principles and theories of chemistry are studied, along with some of the common elements and their compounds. Open only to students in Home Economics.

**105 General Chemistry** 4 hrs. Spring

A continuation of course 104. Some applications of inorganic chemistry to home economics, elementary organic chemistry, introduction to the chemistry of foods and the body, and to textiles and dyeing. Open only to students in Home Economics. Prerequisite: 104.

**106 Chemistry for Nurses** 4 hrs. Fall

The fundamentals of chemistry are studied with a view to applying them to the field of nursing. Credit does not apply towards a major or minor in chemistry.

**107 Applied Chemistry** 3 hrs. Spring

A course for the students in the curriculum in Petroleum Distribution. Fundamental principles of chemistry and an introduction to petroleum chemistry are given emphasis.

**210 Engineering Materials** 3 hrs. Fall

An elementary study of the manufacture and properties of the ferrous and non-ferrous alloys, cements, clay products, protective coatings, fuels, and water softening. This is a non-laboratory course for pre-engineers. This course should be accompanied or followed by (211) metal-processing course. Prerequisite: 101 or 103.

**220 Qualitative Analysis** 4 hrs. Fall, Spring

A lecture and laboratory course treating the theory and practice of separation and identification of both cations and anions. Prerequisite: 101 or 103.

**222 Quantitative Analysis** 4 hrs. Fall, Spring

This course includes the theory and practice of volumetric and gravimetric analysis. Prerequisite: Qualitative Analysis 220. A knowledge of quadratic equations and common logarithms is essential.



**320 Advanced Qualitative Analysis****2 hrs.**

A laboratory course dealing with the analysis of complex solids and commercial products. Chromatographic methods of analysis and the determination of equilibrium constants will be included. Given on request. Prerequisite: 222.

**322 Advanced Quantitative Analysis****2 hrs.**

Special determinations will be selected by the student upon approval of the instructor. Several different types of determinations will be included. Laboratory, eight hours per week, plus consultation with the instructor. Given on request. Prerequisite: 222.

**340 Food Chemistry****2 hrs. Fall**

This is mainly a laboratory course and includes the analysis of foods for important components such as carbohydrates, proteins, fats, minerals, vitamins, and food pigments. Prerequisite: 360, 361.

**360 Organic Chemistry****4 hrs. Fall, Spring**

The preparation and chemical properties of aliphatic and aromatic compounds are studied. Emphasis is placed upon the nature of covalent bonds and molecules and the general reactions of functional groups. The course includes lecture, laboratory and quiz. Prerequisite: 101 or 103.

**361 Organic Chemistry****4 hrs. Spring**

A continuation of course 360. Prerequisite: 360.

**410 Inorganic Chemistry****2 hrs.**

The course includes descriptive and theoretical inorganic chemistry as well as preparation of different types of inorganic compounds. Four hours laboratory and one hour discussion and lecture per week. Prerequisite: 24 hrs. of Chemistry.

**505 Chemical Literature****2 hrs.**

An introduction to the use of the various types of chemical literature such as journals, handbooks, abstracts, monographs, government and institutional publications, and patents. Problems in the course require literature searches in analytical, inorganic, biological, organic and physical chemical fields. Prerequisite: 24 hrs. chemistry.

**530 Physical Chemistry****3 hrs. Fall**

The course includes studies in kinetic theories of gases, liquids, solids, solutions, thermodynamics, physical basis for molecular structure, thermochemistry, homogeneous equilibria, heterogeneous equilibria, etc. Prerequisite: 222, Physics 113 and Calculus 223.

**531 Physical Chemistry****3 hrs. Spring**

A continuation of course 530. This course includes radioactivity, quantum theory, atomic structure, conductance of solutions, pole potentials, oxidation potentials, polarization, chemical thermodynamics, colloids, etc. Prerequisite: 530.

**532 Physical Chemistry Laboratory** 2 hrs. Fall

Includes experiments on molecular weight determination viscosity, surface tension, vapor pressure, distillation of liquid mixtures, etc. Corequisite: 530.

**533 Physical Chemistry Laboratory** 2 hrs. Spring

A continuation of Course 532. Includes experiments on adsorption, colloids, reaction rate, spectrophotometry, phase rule, etc. Corequisite: 531.

**536 Theoretical Chemistry** 3 hrs.

This course is intended to acquaint high school science teachers with an elementary knowledge of physical chemistry. It includes the properties of gases, liquids, solids, solutions, and colloids. Prerequisite: Quantitative Analysis, 1 yr. Physics, College Algebra, Analytical Geometry.

**537 Theoretical Chemistry** 3 hrs.

Thermochemistry, homogeneous and heterogeneous equilibrium, electrochemistry, kinetics, etc. Prerequisite: 536.

**551 Biochemistry** 2 hrs. Spring

Elementary study of the chemistry of the body, digestion, metabolism, excretion, the endocrines, and vitamins. Prerequisite: 360.

**552 Biochemistry Laboratory** 1 hr. Spring

Analysis of blood, urine, and gastric juice, and other experiments according to the needs of the student. To accompany Biochemistry 550. Prerequisite: 222 or 340 and 360.

**553 Special Topics in Biochemistry** 1 hr. Spring

Laboratory problems are selected to fit the needs of the students and increase his knowledge of biochemistry and improve techniques. To accompany 552.

**560 Qualitative Organic Analysis** 3 hrs. Fall

A course in the methods of identification of organic compounds in the pure state and in mixtures, which has as secondary goals the familiarization with many organic reactions and the development of deductive reasoning in the field of organic chemistry. Prerequisite: 361.

**564 Organic Preparations** 2 hrs. Fall

A course in the application of principles and techniques of handling aliphatic and aromatic compounds on a preparative scale. Typical standard procedures are assigned. Emphasis is placed on good yields as well as quality of product. Eight hours of laboratory is arranged each week. Consult instructor before enrolling. Prerequisite: 361.

**565 Organic Preparations****2 hrs.**

A continuation of 564.

**580 History of Chemical Theory****2 hrs. Spring**

This course is taught from the point of view of the history of chemical theory in which the evidence for the theories is critically presented. Prerequisite: 24 hrs. of chemistry or approval of instructor.

**590 Special Problems in Chemistry****2 hrs.**

Advanced students who have completed certain basic work in chemistry may select a special problem in the fields of analytical, organic, biochemistry or physical chemistry. Prerequisite: 24 hrs. of chemistry or approval of instructor.

**591 Special Problems in Chemistry****2 hrs.**

A continuation of special problem work started under 590. Given on request.

**GEOGRAPHY AND GEOLOGY**

William R. Brueckheimer, Head  
 Oscar H. Horst  
 Eugene C. Kirchherr

Marguerite Logan  
 F. Stanley Moore  
 Cyril L. Stout

Geography 105 serves as the foundation course for both geography majors and minors and, therefore, is the prerequisite for all undergraduate geography courses except 225, 244, and 350. There is no required sequence in the courses in regional geography.

Successful completion of 360 is prerequisite to receiving departmental recommendation for directed teaching or for a teaching position in geography.

Major (24 hours)	S.H.	Minor (15-17 hrs.)	S.H.
<b>Required Courses:</b>		<b>Required Courses:</b>	
Human Geography 105	4	Human Geography 105	4
Regional Geography of the World 106 or		Regional Geography of the World 106 or	
Economic Geography 244	3-4	Economic Geography 244	3-4
Physical Geology 230	4		
U.S. and Canada 210 or		<b>Additional required courses for teaching minors:</b>	
Conservation of Natural Resources 350	3	Geographic Techniques 360	3
Geographic Techniques 360 (teaching majors)	3	U.S. and Canada 210 or Conservation of Nat. Resources 350	3
Field Geography 366 (non-teaching majors)	3	Plus at least one additional course chosen with advice + consent of departmental counselor.	
Cartography and Graphics 380 (non-teaching majors)	2		
Plus four to seven hours of electives chosen with advice and consent of departmental counselor.		<b>Additional required courses for non-teaching minors:</b>	
		Field Geography 366	3
		Plus five to seven hours of electives chosen with advice + consent of counselor.	

Any other geography course offered by the department is acceptable on either a major or minor in Geography. A combination of Geography and Geology may constitute a major (24 hours) or a minor (15 hours) in Earth Science.

A combination major (30 hours) may be earned by combining Geography or Geology with the work given in not more than one other department in the Physical Science Division. Similarly a combined minor of 20 hours may be earned provided not more than one other department is involved.

**GEOGRAPHY OFFERINGS****FOUNDATIONAL COURSES**

- 105 Human Geography (See Division of Basic Studies)

**REGIONAL COURSES**

- 106 Regional Geography of the World 4 hrs. Fall, Spring

The continents are studied by geographic regions. Attention is given to patterns of agricultural land use, mining, manufacturing, fishing, recreation, and other major uses of land and other resources.

- 210 United States and Canada 3 hrs. Fall, Spring

Study of areal differentiation in Anglo-American and of present-day problems, with emphasis upon occupational crises in selected regions. Prerequisite: 105.

- 212 South America 3 hrs. Fall

Regional study of the several countries of South America with attention to the interrelationships of the physical and cultural environments. Historical background necessary for the interpretation of the present political, social and economic conditions is included. Prerequisite: 105.

- 213 Mexico and the Caribbean Lands 2 hrs.

Includes the regional study of Mexico, Central America and the West Indian Islands; present economic, social, and political development of these regions; their potentialities and trends. Prerequisite: 105. Not offered in 1959-60.

- 214 Europe 3 hrs. Fall

Course discloses the ways man has adjusted his economic, political, and social life to the natural environmental conditions within the regions of the continent. Prerequisite: 105.

- 308 Introductory World Geography 3 hrs.

Course should be elected instead of 105, 106 by students who do not begin the study of geography before the junior year. Not open to students who have received credit for 105 or 106. Not offered in 1959-60.

- 314 Union of Soviet Socialist Republics 3 hrs. Spring

Analysis of the geography of the whole of the Soviet realm. Prerequisite: 105.

- 315 Asia 3 hrs. Spring

Interpretation of the major geographic regions of Asia. Special emphasis is given to the organization of materials into geographic units. Prerequisite: 105.

**318 Africa****3 hrs. Spring**

The evolution of the present political pattern of the continent; governmental policies of the colonial powers; the geography of the major areas of economic exploitation; impending changes related to opposition to colonial status. Prerequisite: 105.

**319 Islands of the Pacific****3 hrs.**

Study of populations and natural resources of Pacific Islands with emphasis upon economic and political problems which have arisen. Prerequisite: 105. Not offered in 1959-60.

**510 Geography of Michigan****2 hrs. Spring**

Detailed but non-technical study of Michigan in which are taken up the major economic, social, and recreational activities with a view to explaining their existence in the state where each activity is prominent.

**512 Economic Development in Latin America****2 hrs. Spring**

Intensive study is directed toward problems of economic development in Latin America. These are considered in light of varied resource bases and involve a consideration of socio-economic, political and geographic conditions. Prerequisite: 105 or consent of instructor.

**515 The Far East****2 hrs.**

A study of the environmental and cultural assets and liabilities of Japan, China, Formosa, and Korea. Particular attention is given to the population and food problems of the Far East. Prerequisite: 105 or consent of instructor. Not offered in 1959-60.

**516 Southeast Asia****2 hrs.**

Intensive study of the environmental and cultural assets and liabilities of India, Pakistan, and Southeast Asia. Particular stress is given to the population-resource problems of the monsoon countries. Prerequisite: 105 or consent of instructor. Not offered in 1959-60.

**517 The Middle East****2 hrs. Fall**

Diversity and homogeneity in the Middle East, with emphasis on regional interrelations, developmental potentialities and the economic-geographic problems of Israel, Egypt and the Moslem World. Prerequisite: 105 or consent of instructor.

**SYSTEMATIC COURSES****225 Meteorology****2 hrs.**

Study of the elements of weather: temperature, precipitation, and pressure; the reading of weather maps; and the characteristics of fronts and air masses. Thermodynamics and the mechanics of atmosphere are used to explain weather phenomena. The course is non-technical. Not offered in 1959-60.

**244 Economic Geography****3 hrs. Fall**

Course deals with important economic products from the standpoint of their places of origin, cultural and natural factors in their production, their flow in commerce, and principal regions of their consumption.

**325 Climatology****2 hrs. Spring**

Study of the distribution and character of the major climatic types of the earth. Fundamentals of air physics as applied to this distribution are discussed. Prerequisite: 105 or 225, or consent of instructor.

**350 Conservation of Natural Resources****3 hrs. Spring**

Critical evaluation of certain of the natural resources of the United States, such as minerals, soils, forests, water, and wild life; and study of the utilization of these resources so as to yield the greatest ultimate good. Methods in teaching conservation.

**360. Geographic Techniques****3 hrs. Fall, Spring**

Guidance is given in the selection, interpretation, and use of all major types of geographical materials such as texts, library materials, pictures, and maps. Special emphasis is placed upon the organization of findings into geographic teaching units. Prerequisite: 105.

**366 Field Geography****3 hrs. Spring**

Intensive study of type areas near Kalamazoo with the purpose of observing how agricultural and industrial development, transportation, commercial organization, and the urban pattern have made adjustments in these areas. The course is based primarily upon field work. Prerequisite: 105 or 308.

**380 Cartography and Graphics****2 hrs. Spring**

Study of maps, the construction of them for reproduction, and the projections and symbolism most commonly used; also the graphic presentation of statistical material. Prerequisite: 105 or 308.

**382 Interpretation of Maps and Aerial Photographs****2 hrs.**

The interpretation of topographic and geologic maps and aerial photographs and their application to the physical and social sciences. Not offered in 1959-60.

**540 Political Geography****2 hrs.**

Study of the resources, people, and geographic-political problems of the various nations and empires of the world from the point of view of the reciprocal relations involved.

**556 Land-Use Planning****2 hrs.**

The study of the environment in relation to the various uses of the land such as agriculture, grazing, forestry, and recreation. The application of geographic concepts to land-use planning and regional planning. Prerequisite: Conservation of Natural Resources 350. Not offered in 1959-60.

**560 Studies in Geographic Education****2 hrs.**

Course gives prospective geography teachers guidance in the selection, organization and presentation of the best materials available in this field. Not offered in 1959-60.

**570 Urban Geography****2 hrs. Fall**

The study of the spatial distribution of urban centers, their internal structure and external relationships with contiguous and non-contiguous areas. Special emphasis will be given to Kalamazoo's position in Southwestern Michigan.

**574 Methods in Urban Research****2 hrs.**

A course designed to acquaint the student with source materials and field techniques utilized in the investigation of urban problems. Ample opportunity will be provided for research in the Kalamazoo area. Prerequisite: Urban Geography 570. Not offered in 1959-60.

**GEOLOGY OFFERINGS**

A student may minor in the field of Geology by taking Geology 230, Geology 231 and at least eight additional hours chosen with the advice and consent of the departmental counselor from other offerings in Geology.

**230 Physical Geology****4 hrs. Fall**

Study of the origin and development of surface features of the earth and processes involved in their development. It comprises principally studies of the work of streams, glaciers, and wind, and of volcanic and diastrophic activity.

**231 Historical Geology****4 hrs. Spring**

Course includes a study of the origin of the earth, development of plant and animal life as shown by fossils, and major changes that have occurred in elevation, size, and form of continents. There will be one required weekend field trip. Prerequisite: Physical Geology 230.

**330 Structural Geology****3 hrs.**

The development of igneous and sedimentary rock structures and the mechanics of rock deformation. Prerequisite: 230 and 231. Not offered in 1959-60.

**335 Mineralogy****2 hrs.**

Study of the physical and chemical properties, occurrence, uses, and determination of approximately 100 of the more common minerals. Classroom, 1 hour a week; laboratory, 2 hours a week. Desirable antecedents: General Chemistry and Physical Geology 230. Not offered in 1959-60.



**336 Petrology****2 hrs. Spring**

A systematic study of the common rocks and minerals. Prerequisite: 230.

**339 Field Geology—Summer Trip****4 hrs.**

A survey of geologic factors responsible for the landscape features between Kalamazoo and western South Dakota. Rock formations of the Black Hills Region. Field mapping techniques. Enrollment is with the Extension Division, but residence credit given. Prerequisite 230 and 231. Not offered in 1959-60.

**382 Interpretation of Maps and Aerial Photographs****2 hrs.**

(See description under Geography).

**532 Geomorphology****3 hrs.**

A study of the development of landforms and the effects produced upon the more common geologic materials and structures by the agents of erosion. Prerequisite: 230. Not offered in 1959-60.

## MATHEMATICS

Charles H. Butler, Head	Herbert H. Hannon	Joseph K. Peterson
Yousef Alavi	Adelaide E. Howson	James H. Powell
Fred A. Beeler	Stanislaw Leja	Robert C. Seber
Pearl L. Ford	Joseph McCully	Gertruda Wolinski
	Jack R. Meagher	

The Department offers a variety of courses and sequences designed to serve the interests and meet the needs of students in the various curricula. These might be broadly classified as conventional courses and special courses. The conventional courses are designed to contribute to the general education of college students and to meet the mathematical needs of students who plan to specialize in mathematics, science, economics, engineering, or other professional fields. These courses include trigonometry, college algebra, analytic geometry, calculus, and subsequent courses for which these are prerequisite. These courses, taken in the order listed above, form a natural sequence, and in general can be taken only in the order of that sequence. The special courses are designed to meet special needs of students in various vocational curricula and of those who are preparing to be teachers of mathematics.

A minor in mathematics comprises not less than eight semester hours of work subsequent to 123 or 125 and approved by the departmental adviser. A major in mathematics comprises not less than eight semester hours of work subsequent to a year of calculus and approved by the departmental adviser.

The courses in high school mathematics which a student presents for admission determine the pattern of his work in college mathematics. The student who intends to take calculus can determine the appropriate sequence for his freshman and sophomore years by referring to the following table.

Subjects and number of units presented for entrance	First year		Second year	
	First Semester	Second Semester	First Semester	Second Semester
Algebra, 1½ or 2 units Geometry, 1 or 1½ units Trigonometry, ½ unit	124	125	220	221
Algebra, 1½ or 2 units Geometry, 1 or 1½ units	122	123	220	221
Algebra, 1 unit only Geometry, 1 unit	120	122	123	220*

\*To complete a minor in mathematics this should be followed by a second semester of calculus.

#### 100 Business Mathematics

2 hrs. Fall, Spring

Diagnostic and remedial work in the fundamental operations of arithmetic, and a study of elementary business forms and problems. Intended primarily for students in the Department of Business Studies.

#### 101 Business Mathematics

2 hrs. Fall, Spring

A study of simple interest, compound interest, annuities, short-term installment buying, graphs, and amortization. Prerequisite: 100 or equivalent.

#### 102 Introduction to College Mathematics

3 hrs. Fall

Elementary algebra through quadratic equations. This course, together with 103, is intended to provide sufficient mathematical background for the subsequent study of Mathematics of Finance and Business Statistics. Prerequisite: Plane Geometry and one year of Algebra.

#### 103 Introduction to College Mathematics

3 hrs. Spring

A continuation of Math. 102. Topics studied include the binomial theorem, logarithms, progressions, the straight line, and elements of curve-fitting and of probability. Prerequisite: 102.

#### 104 Industrial Calculators

1 hr. Fall, Spring

This course covers the fundamentals of operation and use of the conventional slide rule and of the desk computer.

**110 Basic Mathematics****4 hrs.**

A terminal course designed primarily for students who enter the university with little mathematical background and who do not plan to specialize in mathematics or science but who wish to learn something about the nature of mathematics and its role in the modern world. Not offered in 1959-1960.

**120 Intermediate Algebra****3 hrs. Fall, Spring**

The course covers the work usually given in the third semester of high school algebra. Prerequisite: Plane geometry and one year algebra.

**121 Plane Trigonometry****3 hrs. Fall, Spring**

A study of trigonometric functions, identities, and equations, inverse functions, logarithms, radian measure, and the solution of triangles. Prerequisite: Plane geometry and 120 or equivalent.

**122 College Algebra and Trigonometry****5 hrs. Fall, Spring**

The first half of a year's work leading to the calculus, this course includes the study of college algebra and a part of plane trigonometry. (See description of 121 and 124.) It should be followed by 123. Prerequisite: Plane Geometry and 120 or equivalent.

**123 Trigonometry and Analytic Geometry****5 hrs. Fall, Spring**

A continuation of trigonometry and a substantial treatment of analytic geometry (see descriptions of 121 and 125.) Prerequisite: 122.

**124 College Algebra****4 hrs. Fall, Spring**

A semester's work in college algebra with some of the simpler parts and applications of calculus. Topics studied include fractions, exponents, functions, graphs, variation, linear and quadratic equations, systems of equations, the binomial theorem, inequalities, complex numbers, logarithms, permutations and combinations, probability, determinants, and selected topics from the theory of equations. Differentiation and integration, with simple applications, are introduced. Prerequisite: 120 and 121 or equivalent.

**125 Analytic Geometry****4 hrs. Fall, Spring**

The analytic geometry of the straight line, circle, conics, and certain higher plane curves, transformation of axes, polar coordinates, parametric and polar equations, and a few topics from solid analytic geometry. Calculus is used throughout the course where it is applicable. Prerequisite: 124 or equivalent.

**150 Arithmetic for Teachers****3 hrs. Fall, Spring**

This course is designed for students who expect to teach arithmetic in grades 1 to 6. It deals with the history, philosophy, objectives, and methods of teaching arithmetic, and includes a review of the subject matter of arithmetic.

**200 Surveying****3 hrs. Offered on request**

An elementary course in surveying, including both field work and office problems. Each student is required to keep a book of field notes of his work in good standard form. Prerequisite: 121 or equivalent.

**202 Mathematics of Finance****2 hrs. Fall**

This course includes the study of compound interest, simple annuities certain, and the application of such annuities to problems in the amortization of debts, sinking funds, valuation of bonds, depreciation, and perpetuities. Prerequisite: 123, 125, or 103.

**203 Mathematics of Finance****2 hrs. Spring**

A continuation of 202. Topics studied include the general case of annuities certain and contingent annuities, with applications to problems of reinvestment, and especially of life insurance. Prerequisite: 202.

**210 Solid Geometry****2 hrs. Spring**

An elementary course in solid geometry with emphasis on mensuration. Students who plan to study engineering or to teach mathematics should elect this course unless they have taken it in high school. Prerequisite: Plane Geometry and 120 or equivalent.

**211 Spherical Trigonometry****1 hr.**

The trigonometry of spherical triangles, including the development of formulas and numerical solutions, with applications to astronomy and navigation. Prerequisite: Plane Trigonometry. Not offered in 1959-1960.

**220 Calculus****5 hrs. Fall, Spring**

Covers the same topics as 222 but with more emphasis on interpretation of results and more attention to curvature, motion, and indeterminate forms.

**221 Calculus****5 hrs. Fall, Spring**

Covers the same topics as 223 but with more extensive treatment of series, hyperbolic functions, partial derivatives, and multiple integrals. Prerequisite: 222 or 220.

**222 Calculus****4 hrs. Fall, Spring**

This first half of a year's work in calculus is largely centered around the study of functions, limits, continuity, derivatives, differentials, and integrals. It includes the study of derivatives of algebraic and transcendental functions and the corresponding integrals, parametric and polar forms, curvature and motion, evaluation of indeterminate forms, and curve tracing. Limited to chemistry students currently taking Qualitative Analysis or Quantitative Analysis. Prerequisite: 123 or 125.

**223 Calculus****4 hrs. Fall, Spring**

A continuation of the work begun in 222. Among the topics considered are special integration procedures and applications, infinite series, expansion of functions, hyperbolic functions, partial derivatives, multiple in-

tegrals, and an introduction to differential equations. Limited to chemistry students currently taking Qualitative Analysis or Quantitative Analysis. Prerequisite: 222.

**260 Elementary Statistical Practice** 3 hrs. Fall

A study of averages, dispersions, sampling, correlation, and tests of significance for small and large samples. Prerequisite: 123 or 125.

**264 Statistical Quality Control** 3 hrs. Fall, Spring

A study of the binomial, Poisson, and normal distributions; control charts; single, double, and sequential acceptance sampling plans, and non-parametric tests. Industrial applications will be emphasized. Prerequisite: Math 260.

**302 Programing for Computers** 3 hrs. Offered on request

Organization of, problem preparation for, and general use of high speed computing machines from the point of view of scientific and engineering computations. Flow charts and programs will be prepared for problems such as: social security, square root, quadratic equations, exponential, multiplication of matrices, solution of polynomials, and correlation. In addition to the three class meetings per week, one laboratory session each week will be devoted to coding and solution of the problems to be run on an electronic computer. Prerequisite: Math 223 or consent of instructor.

**306 Differential Equations** 3 hrs. Fall

An elementary course in ordinary differential equations with applications to problems of engineering, physics, and chemistry. Prerequisite: 223.

**330 Theory of Equations** 3 hrs. Fall

The major topics studied are complex numbers, properties of polynomials, cubic and quartic equations, algebraic criteria for ruler-and-compass constructions, determinants, and the solution of systems of linear equations. Prerequisite: 223.

**340 Solid Analytic Geometry** 2 hrs. Spring

Study of lines, planes, space curves, and surfaces; transformations, using matrices. Prerequisite: 223.

**350 Teaching of Junior High School Mathematics**

3 hrs. Offered on request.

A critical restudy of the mathematics commonly taught in grades 7, 8, and 9, with discussion of associated problems of learning and teaching.

**360 Statistical Methods for Industry** 3 hrs. Fall

Statistical methods of quality control; the normal, binomial, and Poisson distributions; the Shewhart control chart; sampling methods for scientific acceptance inspection. Math. 360 and 361 together form an introductory course especially designed for the needs of people in industry in both experimental work and the flow of production. Prerequisite: 223.

**361 Statistical Methods for Industry** **3 hrs. Spring**

Significance tests; tests valid for small samples; introduction to linear correlation; elementary design of experiments. Prerequisite: 360.

**504 Theoretical Mechanics** **2 hrs. Offered on request**

A vectorial treatment of the kinematics and dynamics of particles and of rigid bodies, with emphasis on problem solving. Prerequisite: 505.

**505 Vector Analysis** **3 hrs. Spring**

The formal processes of vector analysis, with application to geometry and mechanics. Prerequisite: 223.

**540 Introduction to Higher Geometries** **2 or 3 hrs. Summer, Spring**

Selected topics from set theory, topology, affine, and projective geometry, and symbolic logic. Topics discussed are related to mathematics taught in secondary schools. Especially recommended for students planning to teach mathematics. Prerequisite: 125 or equivalent.

**550 Teaching of Secondary Mathematics** **2 or 3 hrs. Summer, Fall**

In this course some consideration is given to curriculum problems and trends in secondary school mathematics, but the main emphasis is upon specific problems of teaching mathematics effectively to secondary school students. Prerequisite: 125.

**552 History of Mathematics** **2 hrs. Summer, Spring**

An introduction to the history and foundations of mathematics. A strongly historical treatment of some fundamental mathematical concepts. Topics considered will include sets, relations, functions, and algebraic structures. Prerequisite: Mathematics 125.

**560 Introduction to Statistical Analysis** **3 hrs. Summer, Fall**

The study of statistics as the science of experimentation; averages, dispersions, sampling, correlation, and statistical tests valid for small and large samples. Prerequisite: 125.

**570 Advanced Calculus** **3 hrs. Spring**

This course constitutes a further study of limits, continuity, ordinary and partial derivatives, improper integrals, and infinite series, beyond that in the first year's work in calculus. Prerequisite: 223.

## DEPARTMENT OF PHYSICS

Paul Rood, Head  
 George E. Bradley  
 Stanley K. Derby  
 Jacob Dewitt

Haym Kruglak  
 Walter G. Marburger  
 Robert B. Miller  
 Nathan L. Nichols

A major consists of 24 hours of credit and a minor consists of 16 hours. Acceptable sequences of courses are arranged in consultation with the departmental advisor; these courses are listed below. Every major in Physics should have a minor in Mathematics and a minor in Chemistry. All physics majors are required to take Physics Seminar during their junior and senior year.

Courses applicable on a major in Physics:

112 and 113	Mechanics, Heat, Electricity and Electricity, Sound, Light	10 s.h.
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Fourteen semester hours chosen from the following:

200	Astronomy	2 s.h.	
	or		
202	Photography	2	
340	Heat and El. Thermodynamics	3	
350	Light	3	
360	Introduction to Electronics	3	
380	Adv. Laboratory Physics	2	
530	Theoretical Physics	3	
552	Applied Spectroscopy	3	
562	Electrical Measurements	4	
564	Adv. Electronics	3	
570	Atomic Physics	3	
572	Nuclear Physics	3	14
			<hr/> 24 s.h.

Courses applicable on a minor in Physics:

110 and 111	General Physics	8 s.h.	8
	or		or
112 and 113	Mechanics, Heat, Electricity and Electricity, Sound, Light	10 s.h.	10 s.h.
Eight (or six) semester hours chosen from the "200", "300" and "500" courses listed under "Courses Applicable on a Major in Physics."			8 or 6
			<hr/> 16 s.h.

**PHYSICS COURSES****108 and 109 Physical Science (See Division of Basic Studies)****102 Elementary Acoustics 2 hrs. Fall, Spring**

In this course are studied the nature of sound, how sounds are produced, reflection, and absorption, reverberation, the physics of hearing, and the physical basis of musical scales. It is a required course for students majoring in music. Open to any student who is not majoring or minoring in physics.

**110 General Physics 4 hrs. Fall**

A general college physics course in the principles and practical application of mechanics, sound, and heat. Required of all medical and dental students. Recommended for general students desiring a four-hour course in physics.

**111 General Physics 4 hrs. Spring**

This course follows 110 and consists of studies in electricity, magnetism, and light. Prerequisite: 110.

**112 Mechanics, Heat, and Electricity (General Physics) 5 hrs. Fall, Spring**

A general college course dealing with mechanics, heat, and electricity and some of their applications. Required for students majoring in physics and for engineers; recommended for students planning to teach physics.

**113 Electricity, Sound, and Light (General Physics) 5 hrs. Fall, Spring**

This course follows 112 and consists of studies in electricity, magnetism, sound, light, and modern physics. Prerequisite: 112.

**114 (104A) Physics Problems 1 hr. Fall**

A course in problems in mechanics, heat, and electricity. This course, together with 115, is required of engineers presenting only 8 s.h. of credit in Physics whose program calls for 10 s.h. in this subject.

**115 (104B) Physics Problems 1 hr. Spring**

A course in problems in electricity, sound, and light. Prerequisite: 114.

**200 Astronomy 3 hrs. Fall, Spring**

A non-mathematical course in astronomy for all students who desire an acquaintanceship with our solar system, with stars and constellations, and with the great galaxies of stars which nature has spread so abundantly throughout the known universe. Frequent use is made of an 18 ft. Spitz planetarium and a 4½" refracting telescope. Open to freshmen.

**202 Photography 3 hrs. Fall, Spring**

This is an elementary course in the theory and use of photographic materials.



**340 Heat and Elementary Thermodynamics** 3 hrs. Spring

An intermediate course dealing with expansion, specific heats, change of state, kinetic theory, and the elementary principles of thermodynamics. Prerequisite: 112, 113, Calculus 220, 221, or 222, 223.

**350 Light** 3 hrs. Spring

This is a course in physical optics. The main topics discussed are: wave motion, interference, diffraction, velocity of light, and polarization and double refraction. Prerequisite: 112, 113, Calculus 220, 221, or 222, 223.

**360 Introduction to Electronics** 3 hrs. Fall, Spring

This course includes an introduction to electric circuit analysis with particular reference to electron-tube circuits. The more important uses of electron tubes are considered in some detail. Prerequisite: 112, 113, Calculus 220, 221, or 222, 223.

**380 Advanced Laboratory Physics** 2 hrs. Fall, Spring

A course in laboratory experimentation more advanced than that in 112, 113. May be elected only on arrangement with the instructor. Prerequisite: 112, 113, and a minor or major in physics. Open to qualified Juniors, Seniors.

**390 Teaching of Physical Science (See Division of Science and Mathematics).****530 Theoretical Physics** 3 hrs. Fall

A course designed to present the fundamental structure of physics in precise mathematical terms. It is particularly arranged for students who are majoring in physics or in mathematics. The topics will include mechanics from a vector point of view, flow of fluids, electrical and magnetic fields. Prerequisite: 112, 113, Calculus 220, 221, or 222, 223.

**552 Applied Spectroscopy** 3 hrs. Spring

A combined class and laboratory course on methods of spectrographic analysis. The topics studied will include the history of spectroscopy, the origin of line spectra, spectrographic instruments, and modern techniques of qualitative and quantitative analysis. Prerequisite: 112, 113, 350.

**562 Electrical Measurements** 4 hrs. Fall, Spring

This course deals with the theory and use of instruments to measure electrical and magnetic quantities. Both AC and DC bridge methods are included. Prerequisite: 112, 113, Calculus 220, 221, or 222, 223.

**564 Advanced Electronics** 3 hrs. Spring

Applications of electronics in different types of radio frequency communication systems, in control devices and in general instrumentation are considered in this course. Some laboratory measurements at both audio and radio frequencies are included. Prerequisites: 461, Calculus 220, 221, or 222, 223.

**570 Atomic Physics****3 hrs. Fall**

A study is made of the electron, photoelectric effect, thermionic emission, the physics of x-rays, quantum theory, devices for accelerating nuclear particles, isotopes, spectra, and atomic structure. Prerequisite 112, 113, Calculus 220, 221, or 222, 223.

**572 Nuclear Physics****3 hrs. Spring**

Designed to follow 471. It includes natural and artificial radio-active transformations, the experimental methods of nuclear physics, properties of neutrons binding energy, nuclear reactions, nuclear structure, fission and cosmic rays. Prerequisite 570, or consent of the instructor.

**574 Nuclear Physics for High School Teachers of Science****2 hrs. Fall**

The history and the structure of the atomic nucleus and its characteristics will be reviewed. Emphasis will be placed on nuclear devices and their instrumentation, on operational principles of reactors, and on the use of nuclear materials in industry and research, together with the related necessary health safeguards. Prerequisite: General College Physics and the consent of the instructor.

**612 Current Developments in Physics****2 hrs. Summer**

The course will consist of demonstration lectures and discussions of some of the outstanding developments in physics in recent years, such as nuclear energy and its application, semi-conductors and transistors, ultrasonics, elementary particles, and high energy accelerators. Special attention will be given to making the course of value to high school teachers of science. Prerequisites: 112, 113.

**PSYCHOLOGY**

Stanley Kuffel, Head  
Eston J. Asher  
Homer L. J. Carter  
Frank A. Fatzinger

George G. Mallinson  
Dorothy J. McGinnis  
William B. Pavlik  
John A. Popplestone

Richard H. Schmidt  
Charlotte Sumney  
William Yankee

General Psychology 200 is prerequisite to all other courses in this department, except courses 100 and 102. A major may be obtained by completing 24 hours of work in the department, including course 432. A minor consists of 15 hours.

Students majoring in psychology are advised to elect from the Department of Biology and the Department of Sociology.

**100 Introduction to Learning and Adjustment****1 hr. Fall, Spring**

Psychological principles of effective learning will be presented; methods of note-taking, reading, memorizing, and organization will be discussed. Emphasis will be placed upon problems of personal, educational, and social adjustment. This course may not be counted toward a major or a minor in psychology or in fulfillment of the requirements in the science area.

**102 General Psychology for Nurses** 2 hrs. Fall

An introductory course intended to fit the needs of students of nursing. Not open to regular students. It covers the recommendations of the "Curriculum Guide for Schools of Nursing".

**200 General Psychology** 3 hrs. Fall, Spring, Summer

A brief survey of the elementary principles of psychology. This course affords a general introduction to the field.

**204 Applied Psychology** 2 hrs. Fall, Spring

An overview course introducing the student to the various areas of psychology at work. Some areas covered are: educational, industrial, business, military, clinical, criminal, and legal.

**220 Psychology of Personality** 3 hrs. Fall, Spring, Summer

Attention is given to individual differences, traits, content, and synthesis of personality; modification of behavior and varieties of adjustive behavior. Emphasis is placed upon constructive personal adjustment and the manner in which it is achieved in various interpersonal relations.

**270 Psychology of Adolescence** 3 hrs. Fall, Spring, Summer

This course deals with the various kinds of development in the adolescent. It discusses his problems and difficulties and the proposals for reducing his difficulties and improving his adjustment.

**322 Abnormal Psychology** 3 hrs. Fall, Spring, Summer

A discussion of the deviant individual, with particular attention to the recognition of disorder behaviors, to the factors contributing to their development and to the principles of therapy. Consult instructor before enrolling.

**330 Elementary Statistical Methods in Psychology** 3 hrs. Fall, Spring

Computation and interpretation of statistical techniques useful in the production and understanding of psychological and educational research.

**340 Introduction to Industrial Psychology** 2 hrs. Fall, Spring

This course introduces the student to the many applications of psychology in industry, such as: evaluation of the worker's worth, training on the job, promotion, rating, wages and job evaluation, working conditions as they affect safety, efficiency, morale, and labor turnover.

**341 Psychological Aspects of Business** 3 hrs. Fall, Spring

This course deals with basic wants and the motives that make men buy and sell, work for a living, like or dislike their jobs. It points out the psychological principles involved in buying, selling, market research, and advertising.

**380 Psychological Testing** 3 hrs. Fall, Spring

The course will consider selecting, administration, and interpretation of educational, personality, and aptitude tests. Lecture and laboratory.

**415 Comparative Psychology** 2 hrs. Spring

This is primarily a course for psychology majors. A general treatment of the behavior, sensory and perceptual processes, and learning of the lower animals as bearing on the problem of the evolution and development of human behavior. Consult instructor before enrolling.

**432 Elementary Experimental Psychology** 3 hrs. Fall, Spring

An introduction to current psychological problems and laboratory methods through experimental work in motivation, emotion, memory, learning, and perception. This is a course for majors.

**481 Mental Testing** 2 hrs. Fall, Spring

The purpose of this course is to provide training in the administration, scoring, and interpretation of various mental tests. This course supplements 380.

**490 Special Projects in Psychology** 1-2 hrs. Fall, Spring

General prerequisites must include twelve hours in psychology, and the permission of the instructor. Arrangements will be made for adequately prepared students to undertake individual problems under the direction of a member of the staff. This is a course for majors.

**492 Clinical Psychology** 2-4 hrs. Fall, Spring

This course considers theory and practice of the case study. It involves individual case studies, home visits, interviewing, conferences, laboratory, and clinical procedures. Course 492 involves additional cases and practice in clinical procedure. Prerequisite: 380, 322, and 481, or consent of instructor.

**510 Learning and Memory** 2 hrs. Spring

A survey of the general principles of learning and memory and an introduction to learning theory.

**512 Physiological Psychology** 2 hrs. Spring

Neurophysiological correlates of learning, perception, emotion, motivation, and problem solving. Interrelation between physiological processes and behavior theory is considered.

**514 Emotion and Motivation** 3 hrs. Fall

The various theories of emotion and motivation. The physiology and psychological significance of emotion and motivation. A major purpose of this course is to introduce the major in psychology to the seminar type course.

**516 Advanced General Psychology****2 hrs. Fall**

An intensive study of basic principles of psychology with emphasis on the principles and theories of learning, motivation, emotion, perception, development and other areas of psychology. Recommended for all graduate students in psychology.

**517 Advanced General Psychology****2 hrs. Spring**

A continuation of course 516. This course covers the topics not included in 516. Students are permitted to first enroll in either 516 or 517. Recommended for all graduate students in psychology.

**534 Sensation and Perception****3 hrs. Fall**

Laboratory projects in the psychology of sensation and perception. Emphasis on experimental methods. One hour lecture, four hours laboratory. Prerequisite: Elementary Experimental Psychology.

**542 Occupational Analysis and Classification****2 hrs. Fall, Spring**

Sources of occupational information; procedures and techniques of job analysis and job classification; applications in employment procedures, placement, and vocational counseling.

**560 Vocational Psychology****2 hrs. Fall, Spring**

The problems of vocational choice and of occupational group-differences. Lectures, reading, and an occasional laboratory period substituted for a class hour.

## DIVISION OF SOCIAL SCIENCES

Floyd W. Moore, Chairman

The Division includes the Departments of Economics, History, Political Science, and Sociology. It functions through the Divisional Planning Committee, working in conjunction with the department heads and the staff members of the Division.

Majors and minors in individual departments of the Division must have the approval of the heads of the respective departments. Special requirements are listed under the separate department headings.

Students preparing for social work should consult the head of the Sociology Department concerning their departmental or group major in the social sciences and their minor in social work. See the Social Work Curriculum for special requirements.

Group majors and minors in the Division, except those of students pursuing the Social Work Curriculum, must have the approval of Dr. Weber, Room 219, Administration Building.

1. A group major must include:
  - a. Thirty or more hours in the Division.
  - b. A minimum of fifteen hours in one department of the Division.
  - c. Acceptable courses in at least three departments of the Division. (Man and Society 102, 103, do not alone satisfy this requirement.)
2. A group minor for those who qualify for a teaching certificate must include:
  - a. To teach in the elementary schools:
    1. Twenty or more hours in the Division.
    2. Acceptable courses in at least three departments of the division. (Man and Society 102, 103, do not satisfy this requirement.)
  - b. To teach in the secondary schools (Open only to those who major or minor in a department of the Division):
    1. Twenty or more hours in the Division.
    2. Acceptable courses in the three departments other than the one in which a student has a major or minor. (Man and Society 102, 103, do not satisfy this requirement.)
3. A group minor for students not working toward a teaching certificate must include:
  - a. Twenty or more hours in the Division.

b. May be developed around any one of the following patterns:

1. Western Civilization 100, 101 ..... 8 hrs.  
Electives ..... 12 hrs.
2. Man and Society 102, 103 ..... 8 hrs.  
Electives ..... 12 hrs.

4. The required 3 hours of work in government may be applied toward the satisfaction of any of the above group majors and minors if it has not been applied toward a political science major or minor.

## DIVISIONAL COURSES

The general education offerings of the division include two sequences, one unit in history and the other in the combined social studies.

The history sequence is made up of the two courses, Foundations of Western Civilization 100, 101. These courses, which are described under Division of Basic Studies, carry only history credit. They are especially recommended for those students in teaching curricula who know in advance that they will take a group or departmental major or minor in the Division.

The combined social studies sequence consists of the course Man and Society 102, 103, listed below. Credit for this sequence is allotted in either group majors or minors or departmental majors on the basis of two hours each to Economics, Political Science, and Sociology.

**100-101 Foundations of Western Civilization** 8 hrs. Fall, Spring

For description of the course, see Division of Basic Studies.

**102-103 Man and Society** 8 hrs. Fall, Spring

For description of course, see Division of Basic Studies.

**500 Teaching of the Social Studies** 3 hrs. Fall, Spring

Teaching of the social studies in the Junior and Senior High School. Definition of objectives. Selection, organization, and development of content materials. Study of the procedures and problems of effective teaching in the social studies.

**504 Social Studies Seminar: England** 6 hrs.

A foreign study seminar especially designed for teachers and advanced college students in the social studies. It consists of regularly scheduled lectures and discussions on British life, institutions, social problems, and international relations. The seminar is in formal session in England for a period of about five and a half weeks, after which the party will travel on the continent for approximately four weeks. Credit, up to a maximum of three semester hours in any one department, may be distributed among economics, history, political science, and sociology. Next offered in Summer of 1960.

## ECONOMICS

Floyd W. Moore, Head  
Myrtle T. Beinhauer  
Howard F. Bigelow

Robert S. Bowers  
Theodore L. Carlson  
Marguerite Patton

K. Philip Rahbany  
Jared S. Wend

Courses are designed (1) to contribute to general education by attempting to make students more familiar with the ways and means by which men make their living in modern times; (2) to fulfill the requirements for the training of teachers in certain professional groups, such as social sciences, business studies, and business administration; and (3) to furnish courses and explore areas of economic thought which are prerequisite to graduate study and are recommended as pre-professional in business administration, engineering, journalism, law, medicine, and social work.

Principles 200, 201 are prerequisite to all other courses offered in the department except 230, 322, 502, 508, 514, 604, 626, 628, 612.

A minor in Economics consists of a minimum of 15 hours in the department.

A major in Economics consists of a minimum of 24 hours in the department.

There are no set patterns for these minors and majors. The selection of specific courses depends a great deal upon the student's interest and the kind of work he plans to take up following graduation. For example, the selection of courses for the prospective graduate student might be quite different from those for the persons planning to be an accountant; by the same reasoning, a good background of courses for a salesman might be quite different from those sought by a person planning to do personnel work.

The head of the department will assist students in selecting courses suited to their needs in fulfilling the minor and major requirements.

For the student planning to do graduate work in Economics certain basic courses should be taken as early as possible as an undergraduate student because they are preliminary if not prerequisite to more specialized courses and studies. For example:

Principles of Economics 200, 201 is a prerequisite to nearly all the other courses in the area. Marketing 240 is the course which should precede advanced studies in the rapidly growing field of marketing research and analysis. Money, Credit and Banking 320, 321, forms the background for all courses and studies in finance, credit, and fiscal policies of private concerns and of government.

Economic Statistics 470 is an aid to all studies and a requirement for a graduate degree. Corporations 472 familiarizes the student with our most significant forms of business organization. Labor Problems 510, 511 acquaints the student with the whole labor field and is a desirable forerunner of many, if not all, other labor courses. Business and government 552 constitutes a good introduction to the constantly widening area of government economics and regulated industries.



## **Principles and General Theory**

### **200 Principles of Economics 3 hrs. Fall, Spring**

A study of the fundamental principles of economics and their application to some of our more important economic problems. This course and the following one, 201, are basic to intelligent understanding of our American economic system as compared with communism or other "isms".

### **201 Principles of Economics 3 hrs. Fall, Spring**

A continuation of Principles of Economics 200. Among the problems to which Principles are applied are those of national income, wages, interest, rents, profits, public utilities, monopolies, international economics, and fiscal policies, including taxes.

### **502 Modern Economics 3 hrs. Fall, Spring**

A one semester survey course designed for students who do not intend to major or minor in economics and hence do not take 200 and 201. The basic economic principles necessary for a better understanding of present-day economic problems are illustrated by current developments. This course should be of value to prospective teachers, graduate students, and others who have the opportunity for only one course in economics. Credit in either 200 or 201 will preclude credit in 502.

### **504 Comparative Economic Systems 2 hrs. Spring**

The economic institutions and conditions of capitalism, socialism, communism, fascism, and the cooperative movement are critically examined as to ideology and actual operation. Prerequisite: 200, 201.

### **505 Price Theory 2 hrs. Fall**

A basic course in economic theory, with emphasis on production and income distribution theory. Prerequisite: 200, 201.

### **508 Economic Development 3 hrs. Fall**

An analysis of the economic factors such as population, resources, innovation and capital formation which affect economic growth. Selected underdeveloped areas will be studied to understand the cultural patterns and economic reasons for lack of development and the steps necessary to promote economic progress. Special attention will be paid to evaluating the effectiveness of the United States foreign aid program and examining the issues arising as a result of the conflict with the U.S.S.R. Prerequisite: 200, 201.

## **Labor**

### **510 Labor Problems 2 hrs. Fall**

An analysis of the nature and underlying causes of the problems facing the worker in modern economic society. Prerequisite: 200, 201.

**511 Labor Problems****2 hrs. Spring**

A study of the methods by which workers, employers, and the public have been and now are attempting to solve labor problems. Present programs are evaluated in the light of underlying economic principles in order to develop sound thinking about these problems. Prerequisite: 510.

**512 Collective Bargaining****3 hrs. Fall**

An analysis of the major problems in present-day collective bargaining including the negotiation of collective agreements, the practical aspects and the economic implications. Prerequisite: 510, 511 or the consent of the instructor.

**514 Labor and Government****3 hrs. Spring**

The course deals with the government's role in the problems arising from labor-management relations and from labor's search for security. It covers the court's attitude toward labor organization from the rule of conspiracy through Taft-Hartley. It also includes protective legislation and the development of security legislation.

**Money, Credit and Finance****320 Money and Credit****2 hrs. Fall**

In this course an examination is made of the evolution and functions of money, monetary standards, and credit. Some attention is given to the history of currency in the United States, experiments with paper money, and price-level control, together with considerable factual material relative to credit and credit instruments. Prerequisite: 200, 201.

**321 Money and Credit****2 hrs. Spring**

A continuation of 320 with special emphasis on banking and other financial institutions. Prerequisite: 320.

**322 Budgeting****2 hrs. Spring**

A detailed study of the principles of modern budget practice as applied to financial operations, use of materials, and distribution of time, and exemplified in the budgets of households, businesses and governments; and an analysis and evaluation of budgeting as a tool of management.

**524 Public Finance****3 hrs. Fall**

A study of government expenditure, revenues, debts, and problems of fiscal administration. Prerequisite: 200, 201. Work in government may be substituted in special cases by permission of the instructor.

**Consumption Economics****230 Economics of Consumption****3 hrs. Fall, Spring**

A study of the problems faced by the individual and the family in trying to satisfy their wants with the money income and other resources at their disposal.

**536 Advanced Consumer Economics****2 hrs. Spring**

A study of the place of the consumer in the economic system. The relationships of personal income to price levels, and of consumer liquid assets and availability of consumer credit to total consumer demand will be analyzed. Special consideration will be given to the role of the consumer in determining the amount of national income and the stability of the economic system. Prerequisite: 200 and 201 or 230.

**Marketing and Transportation****240 Marketing****3 hrs. Fall, Spring**

An analysis of the eight marketing functions as they apply to our distribution of physical goods and the transfer of title to those goods. Some attention is given to principles, methods and the increasing problems of successful marketing, together with a recognition of the general criticisms of the existing marketing structure and some proposals for its improvement.

Prerequisite: Principles of Economics 200, 201 which may be taken either before or in conjunction with this course.

This course may be counted as credit in either the Economics Department or in the Business Studies Department.

**444 Transportation****3 hrs. Spring**

An analysis of the various means of transportation, including the items of service, cost, revenues, and government regulations. Prerequisite: 200, 201.

**Public Utilities and Government Regulation****552 Business and Government****3 hrs. Fall**

A study of the regulatory policies of government and their impact on private enterprise. The course seeks to explain the needs for regulation, and to provide an analysis and evaluation of the various laws from the viewpoint of encouragement, subsidization, and control. Special attention will be directed to certain aspects of concentration of economic power, public ownership, and nationalization programs. Prerequisite: 200, 201. Work in Political Science may be substituted in special cases by permission of the instructor.

**556 Public Utilities****3 hrs. Spring**

The nature and problems of the public utility industries and the reasons for and methods of government regulation. Prerequisite: Principles of Economics 200, 201.

**Economic Growth and Fluctuations****561 Business Cycles****2 hrs. Spring**

An historical and theoretical analysis of business cycles. Prerequisite: 200, 201.

**Business Economics****472 Corporations****3 hrs. Fall, Spring**

A study of the nature of the modern business corporation, and its place in modern business life. Consideration is given to problems of organization, direction, finance, and control. Prerequisite: 200, 201. (Because of overlapping content, the same student is not permitted to receive credit in both Economics 472 Corporations, and Business course 330 Corporation Finance.)

**576 Business Administration****3 hrs. Fall, Spring**

This course deals with the elementary principles of internal organization and management of industrial enterprises. It includes a discussion of plant location and types of construction; material equipment and power; planning and routing; statistics and accounting; marketing methods and problems; production management; personnel administration; purchasing, traffic, credit, and collections. Prerequisite: 200, 201.

**International Economics****580 International Economics****2 hrs. Spring**

A general course in international relations with special emphasis on the fundamentals of international trade theory and the impact of national economic policies on international relations. Prerequisite: 200, 201.

**HISTORY**

Robert R. Russel, Head	Willis F. Dunbar	A. Edythe Mange
Ernst A. Breisach	Edward O. Elsasser	Gilbert W. Morell
Alan S. Brown	Robert Friedmann	Howard Mowen
Walter J. Brunhumer	H. Nicholas Hamner	Russell H. Seibert
Sherwood S. Cordier	Margaret B. Macmillan	Charles R. Starring

Students preparing to teach in the later elementary grades are advised to take Foundations of Western Civilization 100, 101 and a sequence of courses in United States history.

Students who have previously acquired a good general knowledge of United States history are advised to by-pass the general survey courses United States History 210, 211 and take more advanced courses in the field. In case of uncertainty as to whether or not courses 210 and 211 ought to be by-passed, the departmental adviser should be consulted.

A major in history must include at least 5 hours in courses numbered in the 500's. The 500's courses deal intensively with short periods or with

single historical topics and, therefore, afford students better opportunity than general survey courses do to become acquainted with methods of advanced historical study.

A minor in history for students in the Secondary Education Curriculum must include at least one 500's course and in cases of students in other curricula at least one 300's or 500's course.

Students who plan to teach history in a junior or senior high school are strongly advised to take Social Science 500, Teaching of the Social Studies. (See description under Divisional Courses, p. 273.) The course does not apply toward a major or minor in history.

Since a reading knowledge of French, or German, or both is helpful in advanced courses in history and essential in graduate work in the field, students majoring in history are urged to elect at least two years of French or German.

**100 Foundations of Western Civilization** 4 hrs. Summer, Fall, Spring  
For description, see Division of Basic Studies.

**101 Foundations of Western Civilization** 4 hrs. Summer, Fall, Spring  
For description, see Division of Basic Studies.

**202 Great Britain and the British Empire, 1688-1815** 3 hrs. Fall  
A general survey of the history of Great Britain and the British Empire from the Revolution of 1688 to the close of the Napoleonic Wars.

**203 Great Britain and the Commonwealth, 1815 to the Present** 3 hrs. Spring  
A general survey of the history of Great Britain and members of the Empire and Commonwealth since 1815 and the evolution of the British Commonwealth of Nations.

**210 United States History to 1865** 3 hrs. Fall, Spring  
A general survey of American history from the beginnings of the Thirteen Colonies to the end of the Civil War.

**211 United States History, 1865 to the Present** 3 hrs. Summer, Fall, Spring  
A general survey of United States history for the period.

**302 The Modern Middle East** 3 hrs.  
A study of the lands formerly parts of the Ottoman Empire with special attention to the problems resulting from racial conflicts, economic imperialism, and the rise of nationalism. Not offered in 1959-60.

**310 History of Michigan** 3 hrs. Summer, Fall, Spring

A course designed to show the development of the contemporary political, social, and economic status of Michigan. The relation of the history of the state to that of the nation is stressed.

**316 Economic History of the United States** 3 hrs. Fall

A general survey of the subject. A general knowledge of United States history such as may be gained from 210, 211 is presupposed, and a knowledge of the principles of economics is very helpful.

**340 History of Russia to 1917** 3 hrs. Fall

Political, economic, religious, social, and cultural developments and the foreign relations of Russia in the Kievan, Muscovite, and Imperial Periods.

**341 History of the U. S. S. R.** 3 hrs. Spring

Political, economic, ideological, social, and cultural developments and the foreign relations of the Union of Soviet Socialist Republics from the November Revolution, 1917, to the present time.

**346 Economic History of Europe** 3 hrs.

A study of the evolution of the economic institutions of Europe with comparisons between Europe and the United States. Not offered in 1959-60.

**350 Ancient Greece** 3 hrs. Fall

Near Eastern and Aegean background; the Homeric Age; rise and fall of Athens; Alexander the Great; Hellenism; and the political achievements and cultural legacy of the Greeks.

**351 Ancient Rome** 3 hrs. Spring

Growth, civil wars, and conquests of the Roman Republic and Empire; constitutional history; Roman law; rise of the Christian church; and the decline and fall of the Empire.

**352 Medieval Europe** 3 hrs.

A general survey of the history of Medieval Europe from the fall of the Roman Empire to the Renaissance with emphasis on cultural development and political and economic institutions. Not offered in 1959-60.

**370 Colonial Latin American History** 2 hrs. Fall

A study of the social, political, economic, and cultural aspects of Latin American history to the end of the Wars of Independence.

**371 History of the Latin American Republics** 2 hrs. Spring

A study of the development of Latin America since the achievement of independence. Special stress is placed on foreign relations.

**380 History of the Far East** 3 hrs. Spring

A comprehensive survey of the Far East from the earliest times down to the present. The internal development and cultures of China, Japan, and India are considered, and special emphasis is placed upon the foreign relations of these countries in the nineteenth and twentieth centuries.

**506 Intellectual History of Western Man, to 1550 2 hrs. Fall**

Leading ideas and intellectual movements in Western civilization: their foundations in Judaeo-Christian traditions; Medieval thought; Arab influences; the spirit of Gothic art; the Renaissance and Humanism; and the final breakup of the Medieval system through the Protestant Revolution.

**507 Intellectual History of Western Man, 1550 to 1959 2 hrs. Spring**

Four hundred years of the Modern mind; the dominance of the scientific perspective and its conflict with Christian ideas and ideals; Calvinism and the economic revolution; rationalism, the Enlightenment, and the secularization of life; romanticism, liberalism, and the challenge of socialism; and the world at a crossroads.

**508 Modern Nationalism in Europe and America 2 hrs.**

Factors promoting the rapid growth of nationalism in early Modern Times; its part in eighteenth- and nineteenth-century revolutions; changes in twentieth-century nationalism; and recent effects of nationalism on international relations. Not offered in 1959-60.

**516 Constitutional History of the United States 3 hrs. Spring**

A study of the development of the political institutions of this country from Colonial Times to the present with emphasis on the growth of the Federal constitution.

**518 History of United States Foreign Policy 3 hrs. Fall**

A study of the formation and evolution of foreign policy by the United States from the time of independence to the present.

**520 American Foundations 2 hrs. Fall**

The English colonies in America, both continental and island, 1607-1763, with emphasis upon the development of institutions and upon imperial policy and administration.

**521 The Era of the American Revolution 1763-1787 2 hrs. Fall**

The causes, character, and consequences of the American Revolution. An intensive study of selected topics. Principal aims are to acquaint students with all kinds of historical materials and to introduce them to methods of advanced historical study.

**522 United States History 1787-1815 2 hrs. Spring**

The making of the Constitution and establishment of the early republic. This course is conducted in the same manner as 521.

**523 United States History 1815-1848 2 hrs. Fall**

An intensive study of selected topics. Principal objects are to acquaint students with the various classes of historical materials and to introduce them to methods of advanced historical study.

**524 United States History 1848-1877** 2 hrs. Spring

This course deals principally with the great sectional struggle over slavery. It is conducted in the same manner as 523.

**527 The Old South** 2 hrs. Summer

A study of economic, social, and cultural conditions in the ante-bellum South with emphasis on the plantation system and Negro slavery and the social and political philosophy of Southern leaders.

**532 United States History 1901-1933** 2 hrs. Fall

An intensive study of a short period. The principal topics are the Progressive Movement, World War I, and the causes of the Great Depression.

**533 United States History 1933 to the Present** 2 hrs. Spring

A continuation of 532. The big topics are the Great Depression, the New Deal, World War II, and our foreign relations since the war.

**554 The Renaissance** 2 hrs. Fall

The life, thought, and art of the Renaissance, 1350-1550; Humanism; social and economic conditions in Renaissance Europe.

**555 The Reformation** 2 hrs. Spring

A history of the religious reformation in Europe at the beginning of Modern Times.

**558 The Old Regime** 2 hrs. Fall

A study of the development of absolute monarchy; of the institutions, life, and thought of the eighteenth century, with special emphasis upon France; and of the causes of the French Revolution. Prerequisite: An introductory course in European history.

**559 The French Revolution and the Napoleonic Era, 1789-1815**

2 hrs. Spring

The overthrow of the French Monarchy and the establishment of the First French Republic; the rise and fall of the Napoleonic Empire; and the spread of revolutionary principles throughout Europe. Prerequisite: An introductory course in European history.

**560 Continental Europe, 1815-1870** 3 hrs. Fall

The principal topics are the reaction following the Napoleonic Wars; the revolutions in behalf of liberty and democracy; the emergence of new states; and the unification of Germany and Italy.

**561 Continental Europe, 1870-1914** 3 hrs. Spring

The principal topics are the liberal and socialist movements of the time and the growth of nationalism and its consequences.

**562 Europe, 1900-1925** 3 hrs. Summer, Fall

A study of the causes of World War I and of the frustrated opportunities of the peace, to the Locarno Conference.



**563 Europe, 1925 to the Present****3 hrs. Spring**

A study of the crucial problems after 1925 and the solutions offered. Special attention is given to the World Depression, Fascism and Communism, the tensions and ideological conflicts that culminated in World War II, and the positions of victor and vanquished after the war.

**567 Twentieth Century Britain****2 hrs. Summer**

A study of British political, social, and economic developments since 1900 and of the changing character of the Empire and Commonwealth.

**571 History of Mexico****3 hrs. Fall**

A study of the political, social, and economic evolution of Mexico from the Wars of Independence to the present day with attention given to the concurrent Mexico-United States relations.

**592 The Literature of History****2 hrs. Summer, Spring**

The reading of selected writings of great historians. The purpose is to develop (1) standards for evaluating approaches, the use of sources, and the handling of controversial matters and (2) appreciation of the pleasures of reading good history.

**POLITICAL SCIENCE**

William V. Weber, Head  
Donald H. Ackerman, Jr.  
Robert J. Batson

Samuel I. Clark  
Milton Greenberg  
Roy Olton

Claude S. Phillips, Jr.  
Jack C. Plano  
Leo C. Stine

Courses in the Department are designed to prepare a student to become (1) a functioning citizen; (2) a teacher of government or civics; (3) a governmental employee or officer; (4) to understand the part government plays in every day business or other activities; (5) to develop sound methods of investigation and reflection as well as the ability to evaluate political information critically; (6) to make clear the role which individuals and organized groups can play in the Political Process; and (7) to demonstrate relationship of the study of government and public affairs to the other social sciences.

The state legislature in 1954 passed a law requiring that all colleges receiving public money shall grant neither degree nor diploma after June 30, 1956, to any student unless such student shall have successfully completed a three semester hour course in Political Science, or in government and public administration. This requirement may be met by one of the following department courses: Nos. 200, 202, or 204.

A major in Political Science consists of a minimum of 24 semester hours of work in the Department plus an acceptable amount of work in other areas related to the individual student's interests. A minor consists of a minimum of 15 semester hours in the Department. It is strongly recommended that if you wish to major or minor in Political Science, that you

take Political Science 202, 204, 340 and 350. The student should plan his program so that he will have work in at least three of the major areas listed below.

Students majoring or minoring in Political Science should consult the head of the Department to determine the appropriate advanced courses to be included in the student's program.

Political Science 202, 204 overlap with 200. Therefore, credit in either 202 or 204 will preclude credit in 200.

## MAJOR AREAS

### American Government

#### 200 American Government 3 hrs. Fall, Spring

The structure and function of our federal, state, county and municipal governments. Emphasis is placed on the rights and responsibilities of citizenship. This course is intended primarily for those who do not have an opportunity to take more courses in Political Science.

#### 202 National Government and Administration 3 hrs. Fall, Spring

An introductory course dealing with the national government structure, processes and functions. The structure and functions of political parties are touched upon incidentally. Emphasis is placed on the relationships and obligations of citizens to their government. Comparisons are made with our state and local governments. This course is intended for those who expect to major or minor in the department or to teach government or civics in the secondary schools.

#### 204 State and Local Government and Administration 3 hrs. Fall, Spring

Detailed attention is given to the structure, functions, and processes of state, county, township, municipal and school government, with emphasis upon Michigan patterns and practices. Comparison is made with our National Government and its relationships to state and local governments. This course is intended for those who expect to major or minor in the department or to teach government or civics in the secondary schools.

#### 300 Current Issues and Legislation 3 hrs. Spring

Congress and the State Legislature in action. An examination of the major legislative problems of the current session of Congress and the State Legislature. Critical examination of the impact of current legislation upon vital community matters such as agriculture, education, taxation, welfare, housing, and civil rights are considered. Prerequisite: Junior standing.

#### 500 Municipal Government 2 hrs. Fall

City Governments: their relation to the state, the rights and liabilities of municipal corporations, city pressure groups, and detailed analysis of the forms of municipal governments. Prerequisite: 230B or the equivalent.

**504 Rural Local Government****2 hrs. Spring**

A survey of governmental organization, functions and political relationships of counties, townships, towns, villages, and special districts. Attention will be directed to the urbanization of rural areas and the emergence of the metropolitan problem.

**506 Current Problems of American Government****2 hrs.**

An advanced study of the issues and policies in government, politics, and economics in their historic and sociological perspectives for elementary and secondary teachers. Specific units for teaching may be developed by individuals or groups. Not offered in 1959-60.

**Politics****310 Political Parties****2 hrs. Fall**

A study of the nature of political parties and the part they play in government. Party principles, organization and the role of parties in the electoral process is emphasized. Prerequisite: Junior standing.

**312 Public Opinion and Pressure Groups****2 hrs. Spring**

An analysis of the nature of public opinion, the methods of influencing it, and the techniques of opinion and attitude measurements, the organization, characteristics, methods, and results of propaganda are considered. Prerequisite: Junior standing.

**316 Legislative Process****2 hrs.**

This course deals with the organization, procedure, and practice of American, national and state legislative bodies. Emphasis will be placed on the relationship between the executive and legislative bodies in the determination of legislative policy. Not offered in 1959-60.

**Public Law****320 Constitutional Law****3 hrs. Fall**

This course considers the nature, principles, and the view of the government of the United States as embodied in written Constitutions and judicial decisions. Prerequisite: 202 or 200.

**322 Administrative Law****2 hrs. Spring**

A study of the legal requirements for, and the limits on, the exercise of administrative powers by public officials; of the means of safeguarding individual rights; the delegation of power; elements of fair administrative procedure; judicial control over administrative determination.

**324 International Law****3 hrs.**

Relations of nations in war and in peace, and the accepted usages regarding the rights of neutrals and belligerents, contraband, blockade, visit and search, changes of sovereignty, extradition, expatriation, and similar subjects. Changes brought about by World War II. Prerequisite: A course in modern European history or international affairs. Not offered in 1959-60.

**520 The Constitution and Civil Liberties****2 hrs.**

A study of free speech loyalty in a democratic state, citizenship, freedom of religion, rights of persons accused of crime, and government's responsibility to protect persons from racial and religious discrimination, with special attention to the role of law and judges. Prerequisite: Junior standing. Not offered in 1959-60.

**Public Administration****330 Introduction to Public Administration****3 hrs. Fall**

Development of administrative organization; administration and the executive, legislature, and judiciary; principles of organization, including line and staff relationships; the staff services of finance and personnel; formal and informal control. Prerequisite: 200 or 202.

**332 Problems of Public Administration****2 hrs.**

The course will include an analysis of some typical problems of administration at all three levels of government. An attempt will be made to develop some principles which will aid the administrator in his consideration of such matters as organization and reorganization of agencies of government personnel and financial administration, techniques of control within the unit and public relations. Individual problems will be assigned at the level of government in which each is particularly interested. Not offered in 1959-60.

**334 Public Personnel Administration****2 hrs. Spring**

The organization and procedures of civil service and personnel systems in government. History of the merit system. Consideration of competitive examinations, position classification, pay administration, civil service discipline and appeals, prestige of the public service, motivation and morale of public servants, the role of bureaucracy in a democracy.

**336 American Chief Executive****2 hrs. Fall**

This course considers the role and position of the chief executive in American government with primary attention given to the office of the President and the office of the Governor. The constitutional, political, administrative functions of the chief executive as well as the relation of the executive branch to the legislature and courts will be examined. The growth and development of the executive office in the 20th Century and the implications of this for democratic leadership will be studied. Prerequisite 200 or 202.

**Comparative Government****340 Comparative Governments of Europe****3 hrs. Fall, Spring**

The organization and procedure of the political institutions of England, France, Germany, and the U.S.S.R. Political trends and forces challenging or reshaping democratic institutions are examined. Prerequisite: 202 or Junior standing.

**540 British Government and Politics****2 hrs. Fall**

The organization and operation of the government of Great Britain and a survey of contemporary British political issues and problems. Prerequisite: 202 or equivalent.

**542 Governments and Problems of the Far East****2 hrs.**

This course includes a study of the governmental organization and an analysis of some current problems of organization and administration of Japan, India, the Philippines, and other countries of the Far East. Special attention will be given to such problems as the growth of communism, land reform, industrialization efforts, and the development of democratic philosophy. Not offered in 1959-60.

**544 Governments and Problems of Central and South America****2 hrs. Spring**

This course includes a study of the governmental organization, an analysis of some of the more current economic, and social problems of selected Latin American countries.

**546 Government of the Soviet Union****2 hrs.**

The organization and government of the Soviet Union deals primarily with the present political structure with special emphasis on the Communist Party and its relationship to the organization of the state. Attention will be paid to youth organizations and education in general as well as to the socio-economic basis of the current system. Not offered in 1959-60.

**International Relations****350 International Relations****3 hrs. Fall**

This course includes a study of the forces which have operated to bring conflict among the states in the international community. It also includes an analysis of power and the ways in which power is gained, maintained and used in international relations. Prerequisite: Political Science 202 or a course in modern history or equipment.

**352 International Organization****3 hrs. Spring**

A study of systems and methods derived by states for dealing with their common problems. Consideration of the principles, objectives and methods of the United Nations. Emphasis will be given to the military, political, economic, social and cultural role of international agencies. (This course is designed as a continuation of 350 but may be taken separately.) Prerequisite: 202 or a course in modern history or equivalent.

**550 American Foreign Policy****2 or 3 hrs. Fall**

An analysis of the diplomatic relations of the United States with emphasis on present foreign problems. Consideration will be given to the formation and execution of American foreign policy. Prerequisite: Political Science 202 or a course in American History or equivalent.

**Political Theory and Methodology****362 Contemporary Political Thought 3 hrs. Spring**

This course emphasizes the important political ideas of the past century. It deals with such political movements as Marxism, Social Democracy, Facism, liberalism and conservatism. It is designed primarily for undergraduate non-majors. Prerequisite: Junior standing.

**560 History of Political Philosophy—Plato to Machiavelli 3 hrs. Fall**

An introduction to the important portions of the political thought of the Ancient and Medieval world. The works of the great political philosophers will be studied in their historical setting.

**561 History of Political Philosophy—Machiavelli to the Present 3 hrs. Spring**

Includes the great works of political philosophy from the late Middle Ages to the present.

**Readings and Research****470 Readings and Research in Political Science 1 to 3 hrs. Fall, Spring**

Is intended to give an opportunity to advanced students with good scholastic records to pursue independently the study of some subject having especial interest for them. Subjects are chosen and arrangements are made to suit the needs of each particular student. Approval of head of department and instructor required.

**SOCIOLOGY**

Leonard C. Kercher, Head  
Paul B. Horton

Chester L. Hunt  
George Klein  
Robert F. Maher

Jerome G. Manis  
Nellie N. Reid

Courses are designed (1) to give students in general a better understanding of the significant factors and processes of modern life; (2) to meet the needs of students preparing to teach in the social-science field; (3) to prepare students to do graduate work in the field of sociology; and (4) to stimulate interest in and provide prerequisite study for the profession of social work.

A major in the field consists of 24 hours and a minor of 15 hours of course work.

Courses 200 and 210 or 220 are required of all students majoring or minoring in sociology and should constitute a minimum selection for students preparing to teach "Community Civics." All courses may be taken separately, and may be taken in any order by students who have had the prerequisite courses.

The curriculum in social work requires a major in sociology or a major in social science with a sociology concentration and a minor in social work, consisting of 19-20 semester hours selected from courses 260, 380, 381, 362, 364, 360, 462, 463, and 574. Students intending to pursue this curriculum should seek counsel and guidance early from the instructor in social work.

## **SOCIOLOGY COURSES**

### **100 Sociology (for Nurses) 2 hrs. Spring**

An introductory course in sociology especially adapted to the need of students of nursing. Not open to regular students.

### **200 Principles of Sociology 3 hrs. Fall, Spring**

A study of man's social nature and of the social world in which he lives. The biological, social, and cultural factors underlying the development of human personality and the various forms and processes of group association are analyzed.

### **210 Modern Social Problems 3 hrs. Fall, Spring**

A general survey of some of the major social problems now confronting American society, such as inter-group conflict, physical and mental ill health, economic insecurity, juvenile delinquency and crime, population changes, and mass communication. Prerequisite: 200.

### **220 Social Psychology 3 hrs. Fall, Spring**

A study of the social and cultural aspects of individual personality, together with an analysis of the problems of personal adjustment that arise from the interaction of personalities and from the relation of the individual to the social environment in general. Prerequisite: 200.

### **230 Introduction to Anthropology 3 hrs. Fall**

An introduction to the principal fields of anthropological study in terms of their concern with the nature of man as it is revealed in his development as a creator and user of culture.

### **240 Modern Marriage 2 hrs. Fall, Spring**

A general education course designed to increase the students' competence for coping with interpersonal problems arising in dating, courtship, engagement, marriage and parenthood. Choosing a mate wisely, planning for marriage, adjusting to one's partner, preparing for successful parenthood are considered.

### **312 Criminology 3 hrs. Spring**

A study of crime as a social problem. Course includes (1) an analysis of causative factors in crime, (2) a study of American police and court systems, (3) a survey of the problems of penology, and (4) a consideration of crime prevention. Visits to institutions are made. Prerequisite: 200.

**314 Race Relations** 2 hrs. Spring

A study of race and inter-group relations, stressing (1) the meaning of race, (2) the nature and roots of race prejudice, race discrimination, and inter-group conflict, and (3) the character and effectiveness of various means of adjustment to the problem. Prerequisite: 200.

**322 Mass Communication** 3 hrs. Spring

The study of the media of mass communication in modern society. Impact of radio, television, movies, and newspapers on family life, delinquency, leisure, and mass behavior. Analysis of rumor, propaganda and ideologies. Prerequisite: 200.

**330 Cultural Anthropology** 3 hrs. Spring

A study of the nature of culture through an investigation of the ways of life of both "primitive" and "civilized" peoples. The structure and functions of culture are considered along with its relationships to environment, society, and the individual. Prerequisite: 200 or 230.

**340 Marriage and the Family** 3 hrs. Fall, Spring

A study of both the personal and the institutional aspects of marriage and family living. Courtship and mate selection, marital adjustment, parent-child relations, family disorganization, and the adaptation of the family to modern society are considered. Credit not given to those having had 240. Prerequisite: 200.

**353 The City** 2 hrs. Fall

A study of city life as influenced by the processes of industrialization and urbanization. Community problems and social planning for community life are given appropriate consideration. Prerequisite: 200. Not offered in 1959-60.

**374 Industrial Sociology** 2 hrs. Fall

A study of human relations in business and industry. The functioning of informal groups and the varying roles of leadership are analyzed. Consideration is given also to the problems of depersonalization, of worker morale and output, and of labor-management conflicts.

**376 Sociology of Education** 3 hrs.

The class room as a social situation analyzed in terms of the interaction between teacher-student and student-student. The educative process as a function of the interpersonal relations among teachers and between teachers and administrators. The school as a social system as it affects and is affected by the community in which it is located and society at large. Prerequisite: 200. Not offered in 1959-60.

**377 Cooperative Social Organization** 2 hrs.

A study of cooperative enterprise and cooperative movements; covering principles, historical developments, forms and manifestations, problems of operation, and place in contemporary society. Prerequisite: 200. Not offered in 1959-60.



**380 Introduction to Social Research****2 hrs. Fall**

An introductory course in the principles and techniques of social investigation. The leading research approaches are surveyed. Procedures for planning, organizing, and conducting limited research projects are analyzed. Statistical concepts and methods are studied. Each student will take part in a group study project. Prerequisite: 12 semester hours of social science other than history.

**381 Social Research Projects****2 hrs. Spring**

A concrete application of scientific methods to specific research projects developed in the introductory research course. Each student will participate in one or more field studies. Prerequisite: 380.

**500 History of Social Thought****2 hrs.**

A critical survey of the social thinking of outstanding students of society from Plato to those of modern social science. Prerequisite: 200 or Man and Society 102, or 600\*. Not offered in 1959-60.

**502 Contemporary Social Movements****3 hrs. Spring**

A study of the growth and place in contemporary society of selected social movements, including communism, fascism, Klu Klux Klan, the Townsend movement, and the like. Prerequisite: 200, or 600\*.

**514 Juvenile Delinquency and the Community****2 or 3 hrs. Fall**

A study of juvenile delinquency as a social problem. Extent, causative factors, methods of treatment, and programs of prevention and control are covered. When possible, extensive use of community resource people is made. Prerequisite: 200, or 600\*, or equivalent.

**532 Culture and Personality****2 hrs. Spring**

An investigation of the interaction of culture and personality with particular attention to the role of culture as a force in the development of the individual. Prerequisite: 200 or 230, or 600\*, or equivalent.

**534 Comparative Culture Studies****2 hrs. Spring**

A comparative study of the structure and the functioning of selected aspects of culture in Britain and America. The courts, the educational system, the welfare state, class stratification, correctional institutions, political organization, and the basic structure of government are considered. Prerequisite: 200, or 600\*.

**542 Family Life Education and Counseling****2 hrs. Fall**

This course is designed to provide the student with a working knowledge of the methods and materials appropriate in the school, the church and other social situations, for working with individuals and small groups who desire preparation for marriage and parenthood. Some attention will be given to the techniques for handling counseling opportunities arising out of these teaching situations.

\*600 Social Dynamics of Human Behavior is a foundational course in sociology at the graduate level.

**554 Population Problems****3 hrs.**

A study of population trends and their human significance. The social and cultural factors influencing the reproductive behavior of man are examined. Biosocial facts are presented and analyzed, but primary stress is on the social implications of present and probable future population trends. World pressure spots as well as the United States are considered. Prerequisite: 12 semester hours of Social Science. Not offered in 1959-60.

**572 Community Agency Resources****2 hrs. Spring**

A study of community agencies and resources for those concerned with family and personal problems. Emphasis is placed upon the availability of these resources and their effective use by business and industry, speech therapists, guidance counselors, teachers, etc.

**574 Sociology of Religious Institutions****2 hrs.**

A study of the social role of religious institutions and beliefs, with particular reference to the United States; the relation between religion and other aspects of society. The course considers social factors affecting the development of different types of religious institutions and the influence of religion on American society. Prerequisite: 200. Not offered in 1959-60.

**SOCIAL WORK COURSES****260 The Field of Social Work****2 hrs. Fall**

A study of social work as a professional field. The philosophy, functions, employment opportunities, patterns of specialization, and methods of social work are surveyed. Interpretative visits to varied types of social work agencies are made.

**360 Principles of Social Work****3 hrs. Fall**

A course designed for students without social work experience. It constitutes a general introduction to the basic principles and processes of social case work and social group work. Prerequisite: Minimum of 5 sem. hrs. of Sociology.

**362 Family and Child Adjustment****3 hrs. Fall**

A study of personality development and adjustment in family situations during childhood and adolescence. Cases are analyzed to reveal the common emotional problems encountered by social workers. Prerequisite: Minimum of 5 sem. hrs. of Sociology.

**364 Public Welfare****3 hrs. Spring**

The history of social legislation and public welfare and their underlying philosophy are considered from the Elizabethan Poor Law to the Social Security Act. An analysis is made of various aspects of welfare legislation of importance to the social worker.

**368 Welfare Organization****2 hrs. Fall**

A study of the community organization method as it applies to the planning, coordination, and integration of social, health, welfare, and recreation services. The class will observe a community organization agency by visits to its meetings and offices.

**462 Orientation to Field Work****2 hrs. Fall**

A course in agency observation and study, aiming to orient the student to a specific field work assignment. A minimum of 90 hours of on-the-spot study of the agency's organization, functions, and methods is required. Prerequisite: Social Work curriculum.

**463 Supervised Field Work****3 hrs. Spring**

A continuation of 462, with emphasis on supervised participation in the work of the agency. Each student is required to complete 135 hours of field work on specific assignments. The student's work is evaluated jointly by the agency supervisor and the instructor. Prerequisite: 462, and consent of the instructor.



# *School of Graduate Studies*

**GEORGE G. MALLINSON,**  
**Dean**

**Departments:**

**Librarianship**

◀ The new field house is a center for athletic and recreational activities. It is located adjacent to the physical education building.

## GENERAL STATEMENT

Graduate instruction began at Western Michigan University in February 1939, under a cooperative arrangement with the University of Michigan. On October 12, 1951, the State Board of Education authorized the four state colleges to grant the master's degree with specialization in education to students completing a program of study under the rules, regulations and procedures adopted by each institution and approved by the State Board. Western Michigan University decided to inaugurate its own graduate program at the beginning of the fall semester of 1952 as permitted by this State Board action. Permission to offer degrees in seven areas, other than education, was granted in December, 1957.

## PERMISSION TO ENROLL

Permission to enroll in graduate courses will be granted to those students who present evidence that they have received the bachelor's degree from an accredited college whose requirements for the degree are equal to those maintained by Western Michigan.

A graduate from a non-accredited college may be admitted to take up to six hours of graduate work with a review of his status after he has taken these six hours. Any student from Western Michigan who is within six hours of receiving his bachelor's degree may be permitted to enroll in up to six hours of graduate credit during the last semester before receiving his degree. **Permission to enroll, however, is not considered an acceptance for Candidacy for the Master's Degree.** Candidacy is granted only after the student has met certain basic requirements of scholarship, achievement and character both at the undergraduate and graduate levels. A student may apply for acceptance into candidacy after having completed ten hours of graduate work on campus. These requirements are listed in the Graduate Bulletin, a copy of which may be obtained by writing the Dean, School of Graduate Studies, Western Michigan University.

## TRANSFER CREDIT

After the student has been admitted to candidacy for the degree, a total of six hours of satisfactory work taken at other approved institutions, for which such institutions grant graduate credit, may be transferred to a master's degree program in the School of Graduate Studies of Western Michigan University, provided such courses are approved by the Curriculum Adviser as a part of the student's program of studies.

## EXTENSION CREDIT

A total of twelve hours of satisfactory graduate work taken through the Division of Field Services may be counted toward the requirements for the master's degree provided such courses are approved by the student's Curriculum Adviser as a part of the student's program of studies.

## DOUBLE REGISTRATION

The regulation covering any student taking both graduate and undergraduate work follows:

A student taking more undergraduate than graduate hours will pay tuition and fees for the total hours he is taking on both levels according to the rate for undergraduate work.

A student taking more graduate than undergraduate hours will pay tuition and fees for the total hours he is taking on both levels according to the rate for graduate work. A student taking the same number of graduate as undergraduate hours will pay whichever fee is the higher.

## TUITION AND FEES

### SEMESTER AND SUMMER FEES

Sem. Hrs.	Resident Students			Non-Resident Students		
	Tuition	Loc. Fees	Total	Tuition	Loc. Fees	Total
1-2	\$12.00	\$23.00	\$35.00	\$24.00	\$23.00	\$ 47.00
3-4	24.00	29.00	53.00	48.00	29.00	77.00
5-6	36.00	35.00	71.00	72.00	35.00	107.00

### GRADUATE STUDENTS ARE LIMITED TO SIX SEMESTER HOURS IN SUMMER SESSION

7-8	\$48.00	\$41.00	\$89.00	\$96.00	\$41.00	\$137.00
9 or more	66.50	47.50	114.00	133.00	47.50	180.50

### ON-CAMPUS SHORT COURSES

1	\$ 6.00	\$14.00	\$20.00	\$12.00	\$14.00	\$26.00
2	12.00	14.00	26.00	24.00	14.00	38.00

## GRADUATE CURRICULA

Work in the following curricula in Education is offered in the School of Graduate Studies:

Curr. Development & Coord.  
Elem. Admin. & Supervision  
General Admin. & Supervision  
Guidance  
Librarianship  
School Psychologist  
Secondary Admin. & Supervision  
Special Education  
Teaching in the Elem. School  
Teaching in the Jr. High School  
Teaching in the Junior College  
Teaching of Art

Teaching of Business Education  
Teaching of Distributive Education  
Teaching of Home Economics  
Teaching of Industrial Ed.  
Teaching of Lit. & Language  
Teaching of Music  
Teaching of Physical Education  
Teaching of Science and Math  
Teaching of Social Science  
Teaching of Speech Correction  
Teaching of General Speech  
Unclassified

Graduate work leading to the degree of Master of Arts is also offered in:

Biology	English	Occupational Therapy
Chemistry	History	Political Science
Economics	Librarianship	Psychology
	Sociology	

Further information is available in the Graduate Bulletin, which may be obtained by writing the Dean, School of Graduate Studies, Western Michigan University.

## LIBRARIANSHIP

Alice Louise LeFevre, Head	Mate Graye Hunt	Esther Carter
Frederic J. O'Hara	Gertrude Van Zee	Mary L. Pressler
Jean Lowrie		

The undergraduate curriculum in librarianship offers preparation for the teacher-librarian or for the student who expects to enter the graduate program in library science either at Western Michigan University or at some other library school. Starred courses are open to prospective teachers or others who desire a wider acquaintance with books and library materials and methods.

Students in the elementary or secondary curricula may meet certification requirements for teacher-librarianship by taking the undergraduate minor in library science along with a subject major. This Librarianship minor consists of the following courses: 100, 101, 230, 510, 512, 530 and 542 or 546 and 516 if the candidate is in the elementary curriculum. The Field Assignment Seminar (520) is also required. A portion of the Directed Teaching period is spent in one of the cooperating school libraries.

The sequence for the Pre-professional Minor consists of 230, 510, 512, 530, and 520. Each candidate will be assigned to one of the cooperating libraries for experience in the area of library science of special interest to him, and for which he is qualified.

The school libraries on the campus and at Paw Paw serve as centers for field work for those preparing for school library service, and selected cooperating libraries throughout the state serve for field assignments in other areas of librarianship. A departmental laboratory containing books and other materials in library science and related fields is provided in the new quarters of the Department of Librarianship in the Dwight B. Waldo Library.



# I. PRE-PROFESSIONAL

A.B. or B.S. Degree

## PRE-PROFESSIONAL

Students who expect to enter a graduate school of library science either at Western Michigan University or elsewhere should matriculate in the following curriculum.

First Year	S.H.	Second Year	S.H.
Basic Studies		Humanities 220, 222	6
College Writing 116, 117	6	General Psychology 200	3
Found. of Western Civilization 100, 101	8	Children's Literature 282	3
Science	8	Human Growth and Development 254	3
Modern Foreign Language	8	Great American Writers, 322	3
Introd. to Librarianship 100, 101	2	Organization of Library Materials 230	2
Physical Education	2	Electives	8
	—	Physical Education	2
	34		—
			30
Third Year	S.H.	Fourth Year	S.H.
American Government 200	3	History of Michigan 310	3
Reference Service 512	3	Introd. to Classification and Cataloging 530	4
Selection of Books and Related Materials 510	3	Field Assignment Seminar 520	2
Electives	21	Audio-visual Education 548	2
	—	Electives	19
	30		—
			30

### 100 Introduction to Librarianship

1 hr. Fall

An introductory survey to acquaint students with the various types of services offered in the modern library as a social, cultural and educational institution. Students will have opportunity to observe, and in some cases, to participate in the work performed in school, public, county or regional, college and special libraries. Open to freshmen and sophomores who may wish to explore the profession of librarianship as a career.

### 101 Introduction to Librarianship

1 hr. Spring

A continuation of 100.

### 230 Organization of Library Materials

2 hrs. Spring

Methods of organizing various types of materials such as books, periodicals, pamphlets, and audio-visual aids for effective use in relation to the demands of schools and of the community. Emphasis is placed upon practical methods of keeping essential business records, book buying, processing and distributing books with a minimum of routine in schools and in small public libraries.

**510 Selection of Books and Related Materials 3 hrs. Fall, Summer, Spring**

Principles of selection and evaluation of books and non-book materials. Appraisal of printed aids, book reviewing media, and other sources of information used in building the library collection. Opportunity given for developing competence in writing annotations and book reviews.

**512 Reference Service 3 hrs. Fall, Spring, Summer**

Study and evaluation of basic reference and bibliographic sources in the various subject fields. Critical examination of the publications of governmental agencies, societies and institutions especially as reference sources. Attention given to organization and methods of reference services.

**516 Elementary School Library Materials 2 hrs. Spring, Summer**

Problems in the selection and evaluation of books, periodicals, films, recordings and other materials for children with special emphasis on the content areas in the elementary school curriculum. Methods of stimulating interest in reading with attention to the retarded as well as the gifted child. For teachers, parents and librarians and others who work with children. Prerequisite: Children's Literature 203 or equivalent.

**520 Field Assignment Seminar 2 hrs. Fall, Spring, Summer**

An assignment in selected cooperating libraries for the purpose of giving the student experience in the organizational and administrative activities in specific types of libraries as basis for understanding their function and the principles underlying policy. The assignment may precede the opening of college or may be carried on during the term. Laboratory period for discussion of problems is held throughout the term.

**522 School Library Service 2 hrs. Spring, Summer**

The function of the library as a department in elementary and secondary schools. Includes study of special problems in budget planning, in provision of staff and in planning for space and equipment. Open to students in school administration programs as well as to librarianship students.

**530 Introduction to Classification and Cataloging 4 hrs. Fall, Summer**

Introduction to the principles of cataloging and classifying the book collection. Includes study and practice in making the dictionary catalog and in classifying according to the Dewey Decimal Classification scheme. Students are taught to use the unit card system and are given practice in assigning subject headings, in adapting Library of Congress and Wilson printed catalog cards, and in cataloging non-book materials.

**542 Reading Interests of Young Adults 2 hrs. Spring, Summer**

Study of the fields of literature suited to the interests of young people. Students are given opportunity through wide reading to develop principles and standards for the selection of the book collection. Includes an introduction to methods of stimulating broader reading interests and of conducting group book discussions with young people. Open to students in the Education Department and to others who expect to work with youth.

**546 Storytelling****2 hrs. Fall**

Underlying principles of the art of story telling: techniques; content and sources of materials. Practice in telling stories before groups of children is provided. Planning the story-hour program for various ages as a means of developing appreciation of literature and stimulating an interest in reading.

## *Miscellaneous Information*

### AWARDS, FELLOWSHIPS, SCHOLARSHIPS

For complete details and application blanks, please write to the registrar.

#### AWARDS

##### DEPARTMENTAL

**ATHLETICS**—The Athletic Board of Control Award is a plaque given to an outstanding athlete who ranks high in scholarship and participation.

**BIOLOGY**—The Harold Cook Memorial Prize of \$20 is given to a student judged most proficient by the Committee on Scholarship, in cooperation with the president of the Faculty Science Club.

**BUSINESS**—Gamma Tau chapter, Alpha Kappa Psi, professional fraternity in commerce, awards annually a Scholarship Key to the male senior student pursuing a degree in the School of Business, who has attained the highest scholastic average for three years of work at this University.

**CHEMISTRY**—The William McCracken Award was named in honor of the first head of the Chemistry Department. It is given to a senior who, in the opinion of the chemistry staff, has shown the greatest aptitude in the field of basic chemistry.

**EDUCATION**—Election to Kappa Delta Pi.

**ENGLISH**—The George Sprau Award In English is given to the graduating senior with the best grades in English throughout his university career.

**FRENCH**—The French Embassy gives an annual prize to the outstanding student of French in the graduating class.

**HISTORY**—The James O. Knauss History Award was established in honor of a distinguished scholar and teacher who was on the faculty for thirty years and was head of the History Department for eleven. It is awarded annually to the senior history major who has made the most outstanding record in history during his university career.

**HOME ECONOMICS**—An award to a freshman girl based on scholarship and leadership.

**INDUSTRIAL EDUCATION**—A plaque is given to the outstanding student in that department.

**MATHEMATICS**—This prize is awarded to the senior student judged by the Department of Mathematics to have exhibited the highest proficiency and promise in that field.

**OCCUPATIONAL THERAPY**—The Marion R. Spear Award is an annual award of \$25 and a letter of commendation given by the Alumni Association to an outstanding senior in the department who gives promise of being a superior Occupational Therapist.

**PAPER TECHNOLOGY**—Awards ranging from \$100.00 to \$500.00 are given to students above freshman level who have demonstrated superior performance in the curriculum. These awards may be for one year only, and vary in amount and number.

**PHYSICS**—An annual prize of \$50 is given to the senior judged most proficient throughout his college course in the field of physics. An annual prize of a Handbook of Chemistry and Physics and \$10 cash is awarded to the best freshman student in physics.

**POLITICAL SCIENCE**—The D. C. Shilling Award was established in honor of a distinguished scholar and teacher who was on the faculty of Western Michigan University for thirty years, and Head of the Political Science Department for seven years. An annual award of thirty dollars is given to the graduating senior Political Science major or minor who has made the most outstanding record in Political Science during his university career.

**SCIENCE**—Membership in Kappa Rho Sigma.

**SPEECH**—Membership in Tau Kappa Alpha.

## ORGANIZATIONAL

**ASSOCIATED WOMEN STUDENTS**—A prize to the outstanding woman student.

**KAPPA DELTA PI**—A prize to the outstanding student in academic areas.

**MEN'S UNION**—A prize to the outstanding male student.

**PI KAPPA RHO**—A scholarship cup awarded annually by the Committee on Scholarship to the outstanding women's organization.

**TAU KAPPA EPSILON**—A scholarship cup awarded annually by the Committee on Scholarship to the outstanding men's organization.

## FELLOWSHIPS

**WESTERN MICHIGAN GRADUATE FELLOWSHIPS**—Ten graduate fellowships are awarded each year on the campus, permitting persons to pursue fulltime graduate study towards the master of arts degree, with specialization in education. These fellowships carry a stipend of \$1,000 for two semesters. Applications should be filed by March 1 with the graduate office.

*Miscellaneous Information*

**STATE COLLEGE FELLOWSHIP**—A State College Fellowship with a stipend in the amount of \$1500 is offered each year to a graduate of the university by the Horace Rackham School of Graduate Study at the University of Michigan.

**GRADUATE FELLOWSHIPS AND ASSISTANTSHIPS** — These are available in the leading universities for students who have a high scholarship record and who show promise of success in graduate work.

**SCHOLARSHIPS**

For complete details and application blanks, please write to the registrar.

**GENERAL**

**ALPHA BETA EPSILON SCHOLARSHIPS**—Each of the 16 chapters of the sorority gives one or more scholarships each year. A student who receives a scholarship must fill the requirements set by the chapter.

**CONSUMERS POWER COMPANY SCHOLARSHIP** — The Consumers Power Company offers one scholarship of \$300.00 per year to a freshman entering Western Michigan. This scholarship is not renewable. Scholarships will be awarded on scholastic ability, character and personality, citizenship and extra-curricular activities, seriousness of purpose, and financial need. Applicants must be February or June 1959 graduates of their high school and should contact their high school principal for particulars regarding this scholarship.

**DETROIT EDISON COMPANY SCHOLARSHIP**—The Detroit Edison Company offers one scholarship of \$300.00 per year, not renewable, to a freshman entering Western Michigan from an area serviced by the Detroit Edison Company. Scholarships will be awarded on scholastic ability, character and personality, citizenship and extra-curricular activities, seriousness of purpose, and financial need. Applicant must be February or June 1959 graduates of their high school and should contact their high school principal for particulars regarding this scholarship.

**EXCHANGE CLUB MEMORIAL SCHOLARSHIPS**—These scholarships, one for a man and one for a woman, are sponsored and administered by the Kalamazoo Exchange Club in memory of former faculty members of the Exchange Club. They are full-tuition scholarships and are limited to students from Kalamazoo County.

**THE FORD MOTOR COMPANY FUND** maintains a scholarship program for the sons and daughters of Ford Motor Company employees.

**GENERAL MOTORS**—The Scholarship Committee annually selects two recipients for the General Motors Foundation Scholarship, which is awarded for a period of four years. This generous award is recommended for prospective freshmen who present outstanding scholastic and extra-curricular records from high school and show promise of continued success.

The amount of the award is based on need which is determined by the Educational Testing Service and Western Michigan University.

**HONORARY SCHOLARSHIPS**—A limited number of these scholarships are available to deserving high school graduates and upperclassmen. They cover tuition only. Scholarships may be renewed up to three times. Applications for renewal must be made at the end of each academic year.

**STUDENT COUNCIL GRANTS IN AID** are available to all students enrolled in a full-time course of study, beginning with the second semester of the freshman year. The amount of the grant is determined by the need of the recipient but may not exceed \$200.00.

**ATHLETIC**—Western Michigan University offers these scholarships to students excelling in athletics, and participating in/or preparing to participate in varsity sports. A student must be recommended by the Physical Education Department and approved by the Registrar's Office. Application should be made directly to the Physical Education Department.

## **BUSINESS**

**KALAMAZOO ACCOUNTANTS' ASSOCIATION SCHOLARSHIP**—This scholarship is awarded to two students; one senior, and one a junior. These scholarships cover tuition and fees. Recipients must major in accounting and the School of Business. Recipients will be recommended by a committee composed of three members of the Board of Directors of the Kalamazoo Accountants Association, by the head of the Accounting Department of the School of Business, and the Chairman of the Committee on Scholarships and Awards of the School of Business. Recipients will be granted automatic membership in the association for the duration of their scholarship. Administration of this scholarship will be made through the Scholarship Committee.

**KALAMAZOO MOTOR CARRIERS' ASSOCIATION SCHOLARSHIP**—The Kalamazoo Motor Carrier Association offers two scholarships of \$300.00 per year to students entering their junior year or senior year, enrolled in the Business Administration Curriculum, and recommended by the Business Department. The awarding of these scholarships is based on merit, need, and extra-curricular activities, specifically in the Business and Transportation areas. An over-all scholastic average of 2.5 (C+) and a 2.75 (B-) average in Business Studies subjects is required. Application must be made to the Registrar's Office.

**GILMORE BROTHERS COOPERATIVE RETAILING SCHOLARSHIPS**—Gilmore Brothers Department Store at Kalamazoo annually offers two scholarships of \$215 each to students currently enrolled in the two-year Cooperative Retail Training Program. The awards are based on need, scholastic ability, good character, a pleasing personality, and a real interest in retailing as a career.

**NATIONAL SECRETARIES ASSOCIATION SCHOLARSHIPS** — The Kalamazoo chapter offers a scholarship of \$100 to a freshman student enrolled in the two-year cooperative secretarial curriculum the second semester of each year. The award is based upon the student's record, need and essay written to the National Secretaries Association.

## EDUCATION

**STATE BOARD OF EDUCATION SCHOLARSHIPS**—The Michigan State Board of Education has made available for Western Michigan University 693 tuition scholarships for high school graduates who wish to enter the teaching profession. These cover tuition and not local fees. The scholarship is awarded for two years, providing the student maintains a satisfactory scholastic average. It may be renewed for two additional years.

**ERNEST BURNHAM RURAL LIFE FUND**—This fund was established by friends and students of the late Ernest Burnham, to commemorate the twenty-fifth anniversary of his work at Western Michigan University. Income from the fund may be used for books or scholarships in the Department of Rural Life and Education.

**THE ELIZABETH R. STEWART SCHOLARSHIP**—This scholarship, made available by the Michigan Congress of Parents and Teachers, is in the amount of \$250.00 per year. Applicants must have completed two years at Western Michigan University, and recipients of this scholarship must commit themselves to at least three years of teaching. Parents and recipients must be citizens of the United States and residents of the State of Michigan. Qualifications in respect to scholarships shall be the same as those for State Board Scholarships. Applications must be made to the Registrar's Office and forwarded to the Michigan Congress of Parents and Teachers by July 1.

## INDUSTRIAL EDUCATION

**ATLAS PRESS**—One scholarship, worth \$500 for the four years of college, is given by the Atlas Press Company. It is open to high school students in Michigan, matriculating in industrial education. Application must be made before March 1 of each year.

## INDUSTRIAL DISTRIBUTION

**MICHIGAN INDUSTRIAL DISTRIBUTORS SCHOLARSHIP**—Michigan Industrial Distributors offer \$250 per year to a junior or senior student of business background or interest who shows evidence of being a promising distributor, a prospective salesman or a potential executive. A C+ average is required. The scholarship may be renewed, subject to available funds.



## INDUSTRIAL SUPERVISION

**DURAMETALLIC SCHOLARSHIP**—The Durametallic Corporation offers \$250 per semester to a student who has completed two years of a technical program at the university and elects to go into the degree program in industrial supervision. Application should be made two weeks before the end of the semester.

## LIBRARIANSHIP

**JUNIOR COLLEGE SCHOLARSHIPS IN LIBRARIANSHIP**—These tuition scholarships are granted to graduates of Michigan Junior Colleges and Community Colleges who are entering the Librarianship curriculum.

**STATE BOARD OF EDUCATION TUITION SCHOLARSHIPS**—These are available for those students in the Librarianship curriculum who are preparing to be teacher-librarians.

## MUSIC

**MUSIC SCHOLARSHIPS**—Ensemble: 10 Band, 10 Orchestra, and 10 Choral. These scholarships pay tuition only, and are valid for a period of one year. They are recommended by the Conductor of the Ensemble, with the approval of the Head of the Department of Music. Applications must be filed by July 1.

**Applied Music:** 8 Stringed Instrument, 8 Wind and Percussion, 8 Voice and 8 Piano and Organ. These scholarships pay state tuition and \$30.00 of the Applied Music fee, and are valid for one school year, provided the student maintains a 2.75 (near B average). Bachelor of Music degree candidates only are eligible. Applications must be filed by April 1, since competitive auditions are held near the end of April.

**Special Ability:** A maximum of 4 scholarships that pay state tuition and student fees. These scholarships are valid for one school year and are renewable annually for three additional years, provided the student maintains a 2.75 (near B average), and satisfactorily discharges his other duties. Students who have displayed superior ability are eligible, and may be recommended by the Head of the Music Department. Applications must be filed by August 1.

**Drum Major and Majorette:** Four awards are made annually on a competitive basis to pay student tuition and fees. The awards may be renewed annually, based on an audition and a minimum 2.0 (C) average. Applications should be received by May 1, since auditions are held approximately June 1.

## OCCUPATIONAL THERAPY

**UNITED CEREBRAL PALSY GRANT**—Awards resident tuition and fees to O.T. juniors, or above. It is based on scholarship and need.

*Miscellaneous Information*

**MICHIGAN O.T. ASSOCIATION**—Grants \$100.00 per year to a Michigan O.T. student, junior or above based on scholarship and need.

**KALAMAZOO SCHOOL ALUMNI ASSOCIATION**—Grants two scholarships—one amounting to \$100.00 each semester to a beginning O.T. student based on need. Another scholarship of \$100.00 per year is given to a beginning O.T. student. This scholarship may be retained for two years.

**PAPER TECHNOLOGY**

**PAPER TECHNOLOGY SCHOLARSHIPS**—A number of scholarships ranging from \$200.00 to \$500.00 per year are awarded to freshmen on a competitive basis. These scholarships are normally renewable three times. Application may be made by applying directly to the Head of the Paper Technology Department, or the Registrar, by March 1.

**PETROLEUM DISTRIBUTION**

**PURE OIL COMPANY'S FINANCIAL AID PROGRAM**—Grants \$500 for two years to relatives of Pure Oil Company dealers, jobbers and employees.

**THE CARL H. KAISER MEMORIAL SCHOLARSHIP**—Given by Helen E. (Kaiser) Wood and Fred Kaiser. This scholarship grants \$700 for two years to any eligible high school graduate from the Port Huron area.

**SPEECH**

**THEATRE ASSISTANTSHIP**—This assistantship carries a stipend of \$300 per year and is available to a student selected by the Theatre Staff of the Speech Department.

**DEBATE SCHOLARSHIPS**—Four Debate Scholarships are offered to two men and two women participating in debate. These scholarships will pay tuition and student fees. The recipients of these scholarships must be recommended by the Speech Department and are renewable only by further recommendation of this department.

**SCIENCE**

**GROVER C. BAKER**—A grant of \$100.00 per year is being made available to a freshman, enrolled in Science, and planning to major in Physics (or Science). The recipient should come from a rural high school (or small city school) and be recommended by the Physics Teacher of his high school.

**COMPETITIVE SCIENCE SCHOLARSHIPS**—In connection with the annual Science Day, a prospective freshman may compete for two scholarships. One is valued at \$150 per year; the other at \$100 a year. The scholarships are awarded only when the students actually enroll at Western. They may be renewed annually for the second, third and fourth year, provided the student carries a major in science or mathematics and maintains a satisfactory grade average.

*Student Loans and Memorial Funds*

**JOHN E. AND EDWIN S. FOX SCHOLARSHIP**—This is an award for a beginning freshman who may show promise in the field of Physics. Application for this scholarship should be made by April 1, and should be accompanied by a recommendation from the instructor in Physics and Mathematics. The applicant will be requested to come to the campus before the award is given. This scholarship is not renewable.

**JOHNSON FOUNDATION SCHOLARSHIP**—Since September, 1953, the S. C. Johnson and Sons, Inc., of Racine, Wisconsin, have presented to a senior majoring in chemistry a scholarship of \$500. The actual granting of the scholarship is administered by the Chemistry Department.

**UPJOHN SCIENCE SCHOLARSHIPS**—Are presented to students who live within a reasonable distance of the city of Kalamazoo and who expect to enter and continue in some field of Science.

These generous awards are recommended for prospective freshmen who present outstanding scholastic records from high school and show promise of continued success. The amount of the award is based on need which is determined by Western Michigan University. Applications should be made to the Director of Admissions.

## STUDENT LOANS AND MEMORIAL FUNDS

Please address requests for information to the Comptroller. All funds are administered by the Committee on Student Loans.

**AMELIA BISCOMB MEMORIAL LOAN FUND**—Established in 1939 through the will of Mrs. Biscomb, for over 30 years a teacher of English in Western Michigan University, who provided the sum of \$500 for this purpose.

**DEBATE LOAN FUND**—This loan fund is for the use of Varsity Debaters only.

**DWIGHT B. WALDO MEMORIAL FUND**—Initiated by a group of faculty members at the time of Dr. Waldo's death in 1939. Loans from the fund are available to any worthy student.

**FANNIE BALLOU MEMORIAL FUND**—Founded in 1921 in honor of Fannie Ballou, who was for seven years supervisor of the second grade of the Training School. Loans are awarded to persons of superior ability in the field of elementary education. Preference is given to students in early elementary education who have completed at least one year of resident work in this college.

**FRENCH STUDENT LOAN FUND**—The fund was started in 1944 by Miss Marion Tamin in tribute to the students of French who have made the supreme sacrifice on the battlefields of the world, insuring thus the liberation of France.

*Miscellaneous Information*

**GRAND RAPIDS PANHELLENIC SOCIETY LOAN FUND**—The Grand Rapids Panhellenic Society has established a permanent Student Loan Fund for emergency or long term loans available to deserving women students to continue their education. It is preferred that this fund be loaned to sorority members but if they have no use for it, it can be loaned to any needy woman student.

**HELEN STATLER FUND**—Established in 1944 by Mrs. Frederick C. Fischer and Frederick C. Statler in honor of their mother and is available to any worthy student.

**KALAMAZOO VALLEY SECTION, TAPPI, ROTATING LOAN FUND**—For students of paper technology. This fund amounts to \$1,500. Loans are available to students upon recommendation of the head of the department of paper technology. There is no charge for interest while the student is enrolled at Western Michigan.

**LEROY H. HARVEY MEMORIAL LOAN FUND**—Established in 1925 by the student Science Club to honor the memory of Dr. LeRoy H. Harvey, who until his death was the head of the Department of Biology. Loans are made to students whose major interest is in the field of science.

**OCCUPATIONAL THERAPY FUND**—Loans have been provided by the Kellogg and Kalamazoo Foundations for the use of Occupational Therapy Students. Loans up to \$300 are available to these students after the completion of one year at Western Michigan University. The purpose of the fund is to defray the cost of clinical affiliation when necessary. The loans are payable within six months after the anticipated graduation date. Applications are to be made to the departmental head.

**SIGMA TAU GAMMA MEMORIAL LOAN FUND**—Chi Chapter of Sigma Tau Gamma fraternity established this memorial loan fund to perpetuate the memory of Ode Custer, Elmer Stillwell, Harry Karnemont, Robert Fletcher and Robert Harvey who made the supreme sacrifice in World War II. Loans from this fund may be obtained by any male upper-classman with a point-hour ratio of at least 1.5. The loans are non-interest bearing.

**SOPHIA REED-MARY MOORE HOME ECONOMICS LOAN FUND**—The Home Economics Club of Western Michigan University set up the loan fund in 1953 in honor of Miss Sophia Reed and Miss Mary Moore who served on the home economics faculty for many years. The maximum amount per applicant will be \$50. This is a non-interest loan to be paid back within a year of the recipient's graduation date. Recommendations are made by the staff of the Home Economics Department.

**STATE D.A.R. SCHOLARSHIP LOAN FUND**—Founded in 1934, has grown to a fund of \$500 through gifts made by the State Committee of the Daughters of the American Revolution.

**STONE D.A.R. STUDENT LOAN FUND**—Established in 1932 through gifts from the Lucinda Hinsdale Stone Chapter of the Daughters of the American Revolution.

*Student Loans and Memorial Funds*

W.M.U. STUDENT LOAN FUND—In September, 1912, a nucleus of a student loan fund was established by a gift of \$200 from Miss Blanche Hull. This fund has been increased to a total of several thousand dollars. Money is loaned to deserving students on the recommendation of a faculty committee. An interest rate of five per cent is charged, and notes not exceeding one year are accepted.

WILLIAM McCracken LOAN FUND IN CHEMISTRY—Established in 1945 through a gift of \$1,000 made by Mrs. William McCracken to honor the memory of her husband, who organized the Department of Chemistry and served as its head (1907-1939). Loans are granted to worthy and needy students majoring in chemistry. Preference will be given students who have proven their ability through courses taken in chemistry at Western Michigan University. Applications for loans should be presented to the head of the chemistry department.

## BUILDINGS and GROUNDS

### EAST CAMPUS

This campus originally included only a hilltop site of 20 acres. Now more than 70 acres are in use, with 15 acres devoted to physical education and recreation. The principal buildings in this area, exclusive of student housing and athletic facilities, are:

**EDUCATION**—University Elementary and High School are housed here, along with the Educational Service Library and School of Education classrooms.

**ELECTRONICS**—Houses classrooms for department of industrial technology.

**HEALTH SERVICE**—The main floor of this building is devoted to the University health service. Also housed here are the Psycho-Educational and Speech clinics, the Research division, the offices of the School of Education and the department of psychology.

### INDUSTRIAL ARTS

**MAINTENANCE**—Headquarters for university maintenance, building and supply services.

**MECHANICAL TRADES**—A 1941 gift from the W. E. Upjohn Unemployment Trustee Corporation of Kalamazoo, this structure houses much of the department of industrial technology.

**NATURAL SCIENCE**—Biology and the C. C. Adams Center for Ecological Studies are the principal occupants.

**SCHOOL OF BUSINESS**—The former general library building, now completely remodeled for the School of Business use. A library annex for east campus classes is included in the structure.

**THEATRE**—Center for campus dramatic and speech activities. The auditorium, with a completely equipped stage, seats 350.

**WALWOOD UNION**—East campus student center provides a snack bar, meeting rooms and the ballroom. Temporarily mathematics and drafting classes are housed here.

### SPEECH ANNEX

### WEST CAMPUS

During World War II, additional land was purchased to increase the campus area by 180 acres. Lying west of the New York Central railroad, the campus provides a hillside panorama of functional, modern buildings exclusive of housing and athletics, they are:

**ADMINISTRATION**—Opened in 1952, this structure houses administrative offices, and 24 classrooms for the social sciences, languages and literature.

**ARCADIA**—The department of occupational therapy is housed here.

**DWIGHT B. WALDO LIBRARY**—This main library building is the newest building to be added to the campus, and in addition to its book collection, includes the department of librarianship and the university Audio-Visual Center.

**HARPER C. MAYBEE MUSIC HALL**—Besides housing all music activities, studios for WMCR-FM are located here.

**KANLEY MEMORIAL CHAPEL**—This is the campus religious center. It was made possible through a gift from the estate of the late William Kanley, an alumnus, and was opened in 1951.

**UNIVERSITY STUDENT CENTER**—This giant structure on West Michigan avenue was opened in the fall of 1957. Social and recreational facilities are provided here for students, and are made available to other educational ventures, as they can be scheduled. A snack bar, bowling alleys, game room, lounges, ballroom, cafeteria, music room and faculty lounge are included.

**WILLIAM McCracken Hall**—Erected in 1949, this building is the home for the departments of chemistry, physics, art and home economics. In 1957 there was added to it another structure for paper technology, the Paper Industry Laboratories.

## FACULTY AND STUDENT HOUSING

Archie Potter, A.M., Director of Housing.

Between the years 1938 and 1958 the following modern residential structures for students and faculty have been erected:

### EAST CAMPUS

**LAVINA SPINDLER HALL**—197 women; Mrs. Edith M. Lake, director.

**HENRY VANDERCOOK HALL**—210 men; Dr. and Mrs. Robert S. Bowers, directors.

**WALWOOD HALL**—115 men; James Boynton, director.

### WEST CAMPUS

**BERTHA DAVIS HALL**—250 women; Mrs. Helen Inman, director.

**BLANCHE DRAPER HALL**—260 women; Mrs. Lucille Yost, director.

**ERNEST BURNHAM HALL**—275 women; Mr. and Mrs. Harry Hefner, directors.

**FRANK ELLSWORTH HALL**—415 men; Mr. and Mrs. Homer Cox, directors.

**ELMWOOD APARTMENTS**—192 units for married students.

*Miscellaneous Information*

THEODORE HENRY HALL—415 men; Mr. and Mrs. Fred Stevens, directors.

HILLSIDE APARTMENTS—32 units for faculty and staff.

LYDIA SIEDSCHLAG HALL—260 women; Mrs. Katharine Chapman, director.

SMITH BURNHAM HALL—257 men; Mr. and Mrs. Archie Potter, directors.

## LABORATORY SCHOOLS

Four Laboratory schools are provided for the use of student teachers. On the East Campus, there are the University Elementary school and University High School. West of Kalamazoo is the Hurd rural school for the use of the department of rural life and education. At Paw Paw, 17 miles west, there is a city-graded school and a high school for the use of our student teachers. Other student teachers are placed throughout Southwestern Michigan, many of them taking not only their practice teaching, but also their education courses at the school in which they are working.

## ATHLETIC FACILITIES

GATEWAY GOLF COURSE—Adjacent to the west campus, this 79-acre nine-hole course provides recreational opportunities for students and faculty. It is open to the general public.

HYAMES FIELD—One of the finest collegiate baseball layouts in the nation. Permanent seating is provided for 2,500 spectators.

KANLEY FIELD—Includes two practice football fields, a baseball field, landscaped park and picnic area. Used by the Men's physical education department and intramural leagues.

FIELD HOUSE—Opened in the fall of 1957, the field house provides indoor facilities for basketball, track, and practice areas for football, baseball, golf and tennis. The main dirt floor is 160 feet by 312 feet, and seating for basketball is more than 5,000. An eight-lap track is provided.

EAST CAMPUS GYMNASIUM—Now the headquarters for the women's physical education department, this structure can seat 2,500 for basketball, and has a balcony running track.

PHYSICAL EDUCATION BUILDING—Opened in 1956, this complete physical education facility has a regulation swimming pool, three handball courts, a basketball court which can be divided by powered doors, wrestling room, special purpose rooms, classrooms and locker facilities; as well as offices for the men's physical education department. Dressing rooms for women are also provided adjacent to the pool. The field house connects to this building.



**TENNIS COURTS**—Twelve lawn-tex courts are provided on the East Campus, along Davis street, and 10 new asphalt courts are on the West Campus, behind Ellsworth Hall.

**WALDO STADIUM**—Two concrete stands, each seating 7,500, line this field, and an eight-lane, quarter-mile track with a 220 yard straight-away are included with the football field. A press box rises above the southeast stands.

**CAMPUS SCHOOL GYMNASIUM**—A playing floor of 60 to 119 feet is provided, along with a stage, offices, locker rooms and a swimming pool.

## OTHER FACILITIES

**KLEINSTUECK WILD LIFE PRESERVE**—Given to the University in 1922 by Mrs. Caroline Hubbard Kleinstueck, this 50-acre tract provides instructional space for biological sciences near the campus and inside the city of Kalamazoo.

**UNIVERSITY FARM**—Six miles south of the university, this farm of 150 acres is a training area for students in agriculture.

## STUDENT ACTIVITIES AND ORGANIZATIONS

In order to meet the needs of students, opportunity is afforded for participation in many extra-curricular activities. All campus organizations must be chartered by the Student Activities Committee consisting of both student and faculty members.

## CHARTERS

Regulation adopted by the Michigan State Board of Education, September 17, 1952.

Charters of Clubs and Organizations may be granted provided that:

- (1) the aims and functions of such societies and clubs are in harmony with the ideals of the university as now defined, or hereafter defined, by the university authorities and the State Board of Education;
- (2) the aims and functions are in harmony with the American form of government, and are constructive in furthering the American way of life. No organization or its officers, local or national, shall be associated with any subversive groups or so-called fronts; and,
- (3) the purposes and functions of the proposed new organization shall not unnecessarily duplicate organizations already chartered by a university.

## GENERAL ORGANIZATIONS

### STUDENT ASSOCIATION

Every student is a member of the Student Association. The organization is governed by the Student Council. The council conducts two student elections annually—in November to select the class officers and representatives, and in the spring to elect the officers for the Student Association, the Associated Women Students and the Men's Union.

### ASSOCIATED WOMEN STUDENTS

All undergraduate women at the university are members of the Associated Women Students. The organization has traditions of upholding the highest social standards on the campus. Faculty women are honorary members.

### MEN'S UNION

Organized in 1936 the Men's Union includes in its membership all undergraduate students, the men of the faculty and administration. A lounge, recreation rooms with game equipment, radio and television are located on the second floor of the union.

## DEPARTMENTAL CLUBS AND PROFESSIONAL ORGANIZATIONS

AMATEUR RADIO CLUB—Operates station W8CVQ.

ART CLUB.

ATHLETICS—W club for varsity lettermen.

AUTOMOTIVE SOCIETY—For those who have completed an automotive course.

BIOLOGY—Beta Beta Beta.

BUSINESS—Alpha Kappa Psi, a national professional fraternity, Gamma Tau chapter, an auxiliary for wives of members. Society for the Advancement of Management, student chapter of national management group.

COUNCIL ON WORLD AFFAIRS.

EDUCATION—Association of Childhood Education International, for students in elementary education. Country Life club, for students in the Department of Rural Life and Education. Future Teachers of America, George H. Hilliard chapter, open to students interested in teaching.

FLYING—Sky Broncos. Sigma Alpha Tau—honorary aviation.

GEOGRAPHY—Gamma Theta Upsilon, Alpha Gamma chapter.

HISTORY CLUB.

HOME ECONOMICS CLUB.

INDUSTRIAL ARTS ASSOCIATION.

INTERNATIONAL STUDENTS CLUB—Open to all students.

LAMBDA XI DELTA—For Alpha Beta Epsilon scholarship students.

LANGUAGE—Der Deutsche Verein: for students of German; Ecos Espanoles: for students of Spanish; Le Cercle Francais: for students of French.

LIBRARIANSHIP—Alpha Beta Alpha.

MODERN DANCE CLUB.

OCCUPATIONAL THERAPY CLUB.

PAPER TECHNOLOGY—Ts'ai Lun club.

PHILOSOPHY FORUM.

PHYSICAL EDUCATION—Phi Epsilon, for women.

PRE-MEDICAL—Students planning to continue studies in medicine or dentistry.

PSYCHOLOGY CLUB.

PUBLICATIONS—Brown and Gold, yearbook; Calliope, biennial literary magazine; Herald, weekly newspaper; Whinney, humor magazine.

R.O.T.C.—Pershing Rifles, national chapter for drill team. Torch and Blade, local branch of General ROTC fraternity.

RESIDENCE HALLS ASSOCIATION—Council for 11 residence halls.

SKI CLUB.

SOCIAL WORK CLUB.

SWIMMING—Water Sprites, for both men and women.

THEATRE—Western Players.

WESTERN WIVES—For wives of WMU students.

W.I.D.R.—Inter-Residence hall radio station, operated by the Residence Halls Association, with studios in the University Student Center.

WOMEN LIVING OFF CAMPUS—Omega Chi Gamma.

YOUNG DEMOCRATS.

YOUNG REPUBLICANS.

## SERVICE ORGANIZATIONS

ALPHA PHI OMEGA—National service fraternity in the fellowship of the Scout oath, to promote service to students, community and nation.

CIRCLE K—Sponsored by the Kiwanis club.

## HONOR SOCIETIES

ARISTA—For senior women.

EPSILON PI TAU—International honorary in industrial education.

HESPERUS—For senior men.

*Miscellaneous Information*

KAPPA DELTA PI—National society in education. Beta Iota chapter.  
KAPPA RHO SIGMA—Mathematics and science.  
PHI MU ALPHA SINFONIA—National music fraternity for men.  
PI GAMMA MU—National fraternity in social studies.  
PI OMEGA PI—National fraternity in business education.  
SIGMA ALPHA IOTA—National fraternity for women in music.  
SIGMA TAU CHI—National fraternity in business studies. Beta chapter.

**FRATERNITIES**

The Inter-Fraternity Council is the governing and coordinating body. It is composed of two men from each fraternity and two faculty members.  
CHI SIGMA KAPPA—National. Alpha chapter.  
DELTA CHI—National. Western Michigan chapter.  
DELTA SIGMA PHI—National. Beta Tau chapter.  
DELTA UPSILON—National. Western Michigan chapter.  
KAPPA ALPHA PSI—National. Gamma Beta chapter.  
PHI SIGMA EPSILON—National. Phi Gamma chapter.  
SIGMA PHI EPSILON—National. Michigan Beta chapter.  
SIGMA TAU GAMMA—National. Chi chapter.  
TAU KAPPA EPSILON—National. Delta Alpha chapter.  
THETA XI—National.

**SORORITIES**

The Panhellenic Council is the governing and coordinating body for sororities. It is composed of representatives from each sorority and two faculty sponsors.  
ALPHA CHI OMEGA—National. Gamma Xi chapter.  
ALPHA OMICRON PI—National. Kappa Rho chapter.  
ALPHA SIGMA ALPHA—National. Beta Psi chapter.  
DELTA SIGMA THETA—National.  
DELTA ZETA—National. Gamma Pi chapter.  
SIGMA KAPPA—National. Gamma Beta chapter.  
SIGMA SIGMA SIGMA—National. Beta Rho chapter.  
THETA UPSILON—National. Nu Alpha chapter.

**RELIGIOUS ORGANIZATIONS**

BAPTIST STUDENT FELLOWSHIP.  
CAMPUS CHRISTIAN FELLOWSHIP—Baptist, Congregational, Disciples of Christ, Presbyterian.  
CANTERBURY CLUB—Episcopal.

CHRISTIAN SCIENCE ORGANIZATION.

CONGREGATIONAL STUDENT FELLOWSHIP.

DISCIPLE STUDENT FELLOWSHIP—Central and Kalamazoo Christian Churches.

EASTERN ORTHODOX FELLOWSHIP.

EVANGELICAL AND UNITED BRETHREN.

GAMMA DELTA—Zion Lutheran, Synodical conference.

GENEVA CLUB—Reformed and Christian Reformed.

HILLEL—Jewish.

INTER-VARSITY CHRISTIAN FELLOWSHIP.

KAPPA PHI—National Methodist women.

LUTHERAN STUDENT ASSOCIATION—National Lutheran Council.

NEWMAN CLUB—Roman Catholic.

PRESBYTERIAN STUDENT FELLOWSHIP.

SIGMA THETA EPSILON—National Methodist men.

WESLEY FOUNDATION—Methodist.

Y. W. C. A.

## STUDENT OPPORTUNITIES AND SERVICES

CAFETERIAS—On the East Campus are located Walwood Cafeteria and Soda Bar. On the West Campus are located the Student Center Cafeteria and Snack Bar.

## ATHLETICS

Athletics consists of two major programs: intercollegiate athletics and intramural athletics.

INTERCOLLEGIATE—The university is represented by teams in football, baseball, basketball, indoor and outdoor track, cross country, tennis, wrestling, swimming, and golf. Representative teams from all parts of the country are scheduled in these sports with the emphasis on mid-western teams.

Western Michigan University has been a member of the Mid-American Conference since 1947. The other members of the Conference are Bowling Green, Kent State, Marshall, Miami, Ohio and Toledo. The athletics are governed by an Athletic Board, composed of faculty members and students, which adheres to the Athletic Code of the Mid-American Conference and the policies and principles established by the National Collegiate Athletic Association. The teams winning the Mid-American Conference championship, both in basketball and baseball, qualify automatically for the annual NCAA playoffs.

*Miscellaneous Information*

To date Bronco teams have finished in the first division 58 times and have finished in the second division only 21 times. Teams have won championships 19 times in addition to one tie for championship.

Western Michigan University is a member of the Central Collegiate Conference. Participation in this conference furnishes competition with a number of the stronger track teams in the middle west.

**INTRAMURAL**—An extensive intramural program provides opportunity for students to engage in competitive sports on campus as members of clubs, fraternities or independent teams. Sports offered for men include basketball, bowling, hand ball, tennis, volley ball, indoor baseball, outdoor baseball, track, archery, horseshoe pitching, golf and swimming. Any sport in which a sufficient number of students indicate an interest and for which facilities are available may be set up in the intramural schedule.

## CLINICS

### PSYCHO-EDUCATIONAL CLINIC

The purpose of the Psycho-Educational Clinic is to provide psychological service for maladjusted children and adults, centering not only upon diagnosis but upon remedial measures as well. It is the plan of the clinic, whose laboratory is equipped with modern psychological apparatus, to train a number of competent students to deal with psycho-educational problems involving academic, social and emotional maladjustment and with educational and vocational counseling.

### READING CLINIC

Students encountering difficulty in reading, or those seeking to improve their reading skills, may seek assistance through the Psycho-Educational Clinic. Work is offered here paralleling the student's regular classroom studies, along with testing to determine and alleviate his reading deficiencies.

### SPEECH CLINIC

Among the services provided students are those of the Speech Clinic. Diagnosis and therapy are provided for all individuals with voice, articulation, stuttering, hearing, cleft palate, or foreign accent problems. Individuals unable to carry on their classroom activities or to achieve adequate results in the general speech courses or to do their practice teaching because of speech difficulties are treated in this modern clinic. Student speech therapists use the facilities of the clinic in preparing for their careers.

### WRITING CLINIC

The clinic is for those students recommended by their instructors to receive help in improving organization, expression, and technical compe-

tence in written English. The clinician analyzes the particular difficulties of each student and tries to help him establish ways of overcoming them. No credit.

## **DEBATING—FORENSICS—DRAMATICS**

Opportunities are offered for participation in all or any of the following activities: (1) Debate—separate programs for women and men offer experience in debating current issues with other colleges of the state and nation. (2) Forensics—extemporaneous speaking, oratory, discussion and various activities and contests are held on local, state, and national bases. (3) Dramatics—activity in theatre includes the production of five major plays per year including a production for children. In none of the about activities is it necessary to belong to an organization or to be enrolled in the speech curriculum.

## **EMPLOYMENT FOR STUDENTS**

Students interested in earning money with which to pay in part their expenses will be given advice and detailed information upon application to the Dean of Men and the Dean of Women. Students whose point-hour ratio is less than 1.8 are not eligible for campus employment.

## **HEALTH SERVICE**

The purpose of the student health service is to help students develop an appreciation of the essentials of healthful living; to assume the responsibility for intelligent self-direction, and a knowledge of when to ask for expert advice.

### **REQUIRED HEALTH EXAMINATION**

Students enrolling for the first time, or after a prolonged absence are required to file a health appraisal report, as a part of the pre-registration requirements. No physical examinations will be given by the university student health service. In order that our records may be uniform, a university health service blank will be sent to each student with the acceptance notice from the Records Office. Students will not be allowed to complete their registration until the health examination report has been received.

### **HEALTH SERVICE FACILITIES**

The main clinic and infirmary are located on the east campus in the Health Service Building. Clinic hours are Monday through Friday 8 A.M. to 4:30 P.M. and Saturday from 9 A.M. to 12 noon. The clinic on the west campus is in Room 140 of the Administration building. Clinic hours are 8 A.M. to 12 noon and 1:30 P.M. to 5 P.M. Monday through Friday only.

Students registered for nine or more hours are entitled to medical care for minor illnesses and emergencies in the health service clinics and infirmary. In addition to the medical director, the Health Service provides the services of surgical consultants, psychiatrists, a dermatologist, and a dentist as well as a staff of registered nurses. These services are free to the students during the scheduled clinics, but a nominal charge is made for medications.

For more serious conditions requiring elaborate diagnostic study, or surgery the student will be referred to a private physician of his choice. In addition, if it is necessary for a physician to see a student in a dormitory or rooming house, the student will be charged for the call.

A university approved accident and illness insurance policy (covering major illness and hospitalization) is offered to all students by a private insurance company for a nominal fee. Students and their families are urged to give this serious consideration for the additional protection.

## LABORATORY SCHOOLS

The training schools of the university are unique in that they include a wide range of typical schools; a rural school, a large village school, a city-graded school and a high school; thus approximating the types of schools students may expect to work in after graduating. Neighboring public school systems are also used. Transportation to outlying schools is provided by the university.

## LIBRARIES

**DWIGHT D. WALDO LIBRARY**—With the beginning of the 1958 Summer Session, Western Michigan University students were able to use the new Dwight B. Waldo Library, a \$1,500,000 structure just completed on the west campus. Also housed in the building are the department of librarianship and the audio-visual center.

The collection of the main library includes about 125,000 volumes. Currently the library receives 1,200 periodicals, of which nearly 700 are bound for permanent retention.

The main library also conducts a Library Annex in the School of Business building on the east campus. This library contains basic reference works and materials related to east campus courses. Currently more than 100 general and specialized periodicals and newspapers are received. A Music Library is maintained on the second floor of Harper Maybee music hall. A branch of the main library, this unit has about 2,250 volumes devoted to music, 26 periodicals and more than 2,500 phonograph records. Music listening rooms are a part of this library.

**EDUCATIONAL SERVICE LIBRARY.** The Educational Service Library is located in Room 103, Education Building. It provides for students of education a representative collection of the latest editions of textbooks both in the elementary and secondary fields, texts for each of the common



branches and special subjects, books in general education, professional books in the different subject areas, teaching and curriculum aids, source and reference material, a fine collection of elementary and secondary courses of study in all subject fields.

## MUSIC

The band rehearses twice a week, three times during the football season, and gives concerts on and off the campus. Any student with adequate playing ability on a band instrument is eligible for membership. The Orchestra meets twice a week throughout the year and presents concerts both on the campus and in other cities of the state. It joins each year with the choral groups to present the Christmas program. Any student with reasonable proficiency in any orchestral instrument is eligible for membership.

An important part in the musical life of the college is played by the Glee Clubs and the Choirs. The Men's Glee Club, Women's Glee Club, the College Choir and the Auxiliary Choir aim to develop and maintain a high standard of choral ensemble singing. They make a number of appearances on the campus, at high schools throughout the state, and with organizations like the Kalamazoo Symphony. The Auxiliary Choir is designed for students with little choral experience, but many of the students in this organization later find their way into the Glee Club and the College Choir.

## COUNSELING AND GUIDANCE SERVICES

The Counseling Bureau is located in Room 131, Administration Building.

Services are provided for all new students preceding the semester or summer session of entrance to the university. Students who have not been counseled prior to the day of registration will be referred to a counselor on registration day. No student may register without presenting either a "Student Schedule" or a "Counselor's Approval Card" which is obtained from the counselor.

Counselors assist all students in planning for a total program leading toward a degree, with or without certification, as well as students enrolling in two year terminal curricula. This includes:

1. Help in understanding the educational requirements of the university.
2. Help in understanding the requirements of the curriculum in which enrolled.
3. Help in selection of major and minor fields of concentration.
4. Referral to the responsible departmental adviser for help in outlining requirements of the major and minor fields.

Students are expected to assume responsibility for obtaining information relative to the above requirements. It is desirable that all necessary procedures pertaining thereto be completed by the end of the sophomore year. An adjustment in time is made for transfer students in which to complete these procedures.

*Miscellaneous Information*

Counselors are available to all students to help them with other educational problems, or personal and social problems, and to interpret policies and procedures of the university.

An occupational counseling service is offered students to assist them in making a suitable vocational choice. Students are urged to take advantage of this service.

Veterans are given help in—

1. Proper enrolling.
2. Preparing necessary papers and reports required by Veterans Administration.
3. Filing applications for loans.
4. Other items or questions which need clarification.

Students are urged to avail themselves both of the counselors' and Departmental Advisers' help. Names of Advisers, their rooms and office hours are published each semester on a mimeographed sheet to be found in the counseling office. Their names also are published in the Schedule of Classes.

## PUBLICATIONS

The Brown and Gold is the yearbook written and edited by the students of the university. Policies and control of the publication are handled by the Brown and Gold student-faculty committee. The editor and business manager are appointed and receive remuneration for their work. They are responsible for naming other staff members and carrying the project to completion. Offices are maintained in the Ty House, East Campus.

The Western Herald is the student newspaper, now published weekly through the fall and spring semesters. Policies controlling the publication are set by the Herald student-faculty committee. The editor and business manager are paid positions, appointed by the above committee. Offices are maintained in the Ty House and the paper is printed in the University print shop.

The Student Directory is published during the fall semester each year by the Student Council, with that organization's publicity director charged with the responsibility.

The Western Way is published each fall by the Student Council as a guide for students to the campus organizational and social life. Copies are available free for all students at the opening of school.

Calliope, a student authored literary magazine, is published twice each year. Supervision is provided by the English faculty.

## RADIO

WMCR, the FM voice of Western Michigan University, began official broadcasts in April, 1951, operating at 102.1 megacycles with an effective radiated power of 400 watts.

*Student Opportunities and Services*

In 1954 a grant of \$7,500 from the Kellogg Foundation made it possible for the station to secure equipment increasing its power to 36,000 watts, effective radiated power. With the power increase WMCR enables the university to serve an area sixty miles in radius.

In addition to broadcasting classroom lectures, special programs from various departments, athletic events, recitals from the Music Department, assembly speakers, and special college events, the station also brings to its service area scores of significant radio series from the tape network of the National Association of Educational Broadcasters.

WIDR is the student-operated radio station, broadcasting eight hours each day. It can be heard only in university residence halls.

## READING LABORATORY

Individuals wishing to improve their reading skill may spend from one to two hours in the Reading Laboratory on Tuesday and Thursday of each week. Twenty-two assignments have been prepared, and each student is expected to proceed from assignment to assignment as his ability permits. These assignments show the student how to improve his reading ability as he does his regular class work. The facilities of the Psycho-Educational Clinic will be drawn upon to provide clinical service whenever the student's needs warrant.

## R.O.T.C.

The United States Army has established a Reserve Officer Training Corps Unit at Western Michigan University, which offers the student an opportunity to prepare for military service and to occupy positions of leadership in the Armed Forces. Students pursue a General Military Science course including subjects common to all branches of the army.

The first two years of ROTC comprise the Basic Course, and the final two years the Advanced Course. Uniforms and textbooks are furnished. Advanced Course students receive a monetary allowance of approximately \$27 each month. Two hours' credit is allowed for the Advanced Course.

Upon completion of the four-year course, and attendance in summer camp training, students are eligible to apply for appointment as Second Lieutenant, United States Army Reserve. Enrollment in ROTC together with an acceptable scholastic average will entitle a student to apply for a draft deferment so that he may complete his college training without interruption.

## RELATED SERVICES

### ALUMNI

Western Michigan University has granted degrees and/or certificates to more than 28,000 individuals. An additional 58,000 former students have received part of their educational training here. All of these persons are considered alumni and are eligible to membership in the Alumni Association.

The **News Magazine**, published quarterly, contains a section devoted exclusively to alumni activities. It is sent free to all students in their senior year and regularly to all alumni who become active dues-paying members of the Alumni Association. Membership rates are nominal.

About 1,000 of Western's alumnae are members of Alpha Beta Epsilon. This is a sorority having 17 chapters in various cities of Michigan and Indiana. A chief activity of each chapter is to maintain one or more outstanding students at Western by means of a fine scholarship program.

New alumni clubs are being established, and old clubs are being activated throughout Michigan and neighboring states.

The Office of Alumni Relations is located in the Walwood Union.

## ART COLLECTION

Through the courtesy of the family of the late Hon. Albert M. Todd, an interesting collection of paintings, sculpturing, and fine ceramics gathered by Mr. Todd in many years of travel has been presented to the University.

These were formerly concentrated in an exhibition room in the Library, but through the extensive building program they have been distributed among different buildings to provide distinctive decorative notes appropriate to the building.

## CARNEGIE GIFT OF BOOKS AND PICTURES

A gift from the Carnegie Corporation of New York of books, photographic prints, color facsimiles, and etchings was presented to Western Michigan University in the summer of 1939. The collection consists of 831 large, well-mounted photographs and 125 books, together with 30 colored reproductions, and portfolios containing illustrations of prints. This collection is housed in McCracken Hall in the Art Department Gallery.

## DIVISION OF FIELD SERVICES

The Division offers educational opportunities to persons who do not participate in the regular full-time undergraduate or graduate program of the college.

Serving primarily the 16 counties of Southwestern Michigan, Western's offerings last year reached more than 39,000 persons. Of these, over 6,000 represented extension class and correspondence enrollments. The remainder were contacted through adult education activities in conferences and discussion groups; through in-service education programs; and through extension course planning meetings.

A variety of courses is offered to benefit teachers in the field and the other interested adult students. Course offerings in the 16 counties are planned in conference with County Superintendents, Public School Superintendents and their teacher committees. Courses are offered on both the

undergraduate and graduate levels. A special schedule of on-campus offerings is planned each semester for persons who can attend Saturday or evening classes.

There is also a wide variety of correspondence courses available. These may be taken for credit and applied toward an undergraduate degree within the limitations described in this bulletin.

In the field of adult education the office supplies advising services, speakers, discussion leaders, and persons qualified to handle leadership training programs. Upon request, such services are available to farm groups, labor unions, schools, church organizations, and other organizations.

In-service education programs are planned with schools, businesses, and any institution seeking to improve personnel within the institutions. Advisory services are offered, as well as actual training programs.

For details of policy, and further information please write the Office of Field Services.

Fees for undergraduate credit are \$11.00 per semester hour; for graduate credit, \$11.00 per semester hour.

Fees for auditors are one-half the amounts indicated.

## **PLACEMENT SERVICE**

Western Michigan University has operated a free placement service for many years. No graduating student can be guaranteed employment; but all graduates have the opportunity to meet prospective employers from the public schools, business, industry, social agencies and governmental services. Active communication is maintained between the university and hundreds of employing officials. Information concerning employment trends and general job opportunities is made available. Alumni are always welcome to use the placement service free of charge. Summer employment contacts for students are also maintained. The Office of Placement and Alumni Relations is located in Room 231, Administration Building.

## MICHIGAN VETERANS VOCATIONAL SCHOOL

The Michigan Veterans Vocational School is a state institution under the supervision and management of the State Board of Education and is operated in conjunction with Western Michigan University. The major objectives of the school are to furnish the best possible vocational and trade training for veterans, and, as far as possible, to be a center for the rehabilitation of non-veterans authorized to take such training under Public Law 113. It is located on the north side of Pine Lake, 22 miles north of Kalamazoo.

Direct application for admission should be made to the school by writing Michigan Veterans Vocational School, Pine Lake, Doster, Mich.

### Administration

Lloyd G. Chapman, M.A. B.A., Hope; M.A., Michigan	Director
Wayne Beery, M.A. B.A., Western Michigan University; M.A., Michigan	Assistant Director
Jeptha F. Turnage	Business Manager
Ann W. Dobbyn, R.N. R.N., Harper Hospital School of Nursing, Wayne; Public Health Training, Michigan	Health Service

### Instructors

William A. Alber	Business Machine Repair
James Y. Buchanan	Upholstering
Kenneth Buelow, B.S., Michigan State	Counselor—Recreation Director
Lloyd Decker, M.A. B.A., Stout State; M.A., Michigan	Architectural and Machine Drafting
Harold Andersen	Watch Repair
Claude A. Harrington	Radio and Television
Robert Heydenberk, M.A. B.S., M.A., Western Michigan University	Wood-Working
Jacob Kandell	Typewriter Repair
Lloyd I. Meadows, M.A. B.S., M.A., Western Michigan University	Business Education
Kenneth Reemtsen	Appliance and Radio Repair
Raymond Selkirk	Machine Shop
Clarence Sundquist, B.S. B.S., Central Michigan	Printing

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